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Original Articles.

ALCOHOLIC CIRRHOSIS OF THE LIVER IN CHILDREN.

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When one is dealing with cases of chronic abdominal disease in children, alcoholic cirrhosis of the liver is not as a rule present to the mind as an important possibility. This is chiefly owing to the condition being regarded as one of extreme rarity. It is, of course, very uncommon, but perhaps not to the extent that is often supposed. I have had the opportunity of observing three cases in the past few years, and propose shortly to describe two of them of which I have preserved full notes. I am indebted to Dr. Morley Fletcher for his kind permission to publish both cases. They were seen at Shadwell Hospital, the one in 1904, the other in 1905.

Sarah M—, a Russian Jewess, was sixteen months old when first seen. She was brought to the hospital for manifestations of malnutrition, which had been present for three or four months, and which had been gradually getting worse. The chief symptoms were wasting and vomiting. The vomiting was not forcible or frequent, and the fluid was yellowish-green ; it occurred as a rule within an hour of feeding and bore no relation to the time of day. The bowels were open two or three times a day. The fæces were yellow and watery ; they never contained mucus or blood. The urine was said to be changed in colour from the normal, but I could not satisfy myself from the relatives' description whether this had been so or not. That passed in my presence contained no bile-pigment or bile-salts, and was normal in all respects except that it was rather dark and concentrated. The child was small and wizened, the face was sallow and muddy, and the conjunctivæ were distinctly jaundiced. The weight was 14 lb. 6 oz. The general nutrition was poor, and the skin sallow, dry, and shrivelled. The pupils were of normal size, and there were no abnormal nervous signs. The abdomen was distended, but chiefly by tympanites. The girth at the umbilicus was 45 cm. There was clear evidence of free fluid in the abdomen, shifting dulness in the flanks being easily obtained; the amount of fluid was not great. The liver was palpable, its edge, which was sharp and hard, reaching to within a finger's breadth of the umbilicus. The spleen was just palpable below the costal margin. On the relatives being again closely questioned, the following facts transpired : The child had arrived in England from Russia only a fortnight before. The mother had been in hospital in St. Petersburg for several months, and the child had been cared for since the age of eleven months by its grandmother in the country. For the whole of this time the grandmother had been in the habit of giving the child a little wine twice a day. The amount of the dose varied, but was frequently a tablespoonful. The wine was reputed to be of considerable strength. The object of the proceeding was to strengthen the child's health and compensate for the loss of its mother. The course of the disease after treatment was begun was very favourable. Within three weeks the signs of fluid disappeared, the liver was already smaller, and the child putting on weight. When I last saw the child the liver was palpable at less than two fingers' breadth below the costal margin, and practically all the other signs had disappeared.

The second case was that of an English child, Florence B—, aged 2 years and 11 months. She had had whooping-cough, which had begun six months previously and had lasted for three months. Towards the end of this time brandy had been prescribed for her by the medical attendant in doses of a drachm twice a day. This amount was, however, exceeded to a variable extent, and was continued for over five weeks. After a tardy convalescence it was noticed that she was getting thinner, although the belly had begun to swell. The stools and urine were normal. Vomiting occurred occasionally—a few times a week. The child was considerably wasted, and had an unhealthy appearance. The face was sallow, but not definitely jaundiced. The abdomen was very full, and measured 57 cm. at the level of the umbilicus. There was distinct evidence of a considerable amount of free fluid in the peritoneal cavity. The liver was felt at three to four fingers' breadth below the costal margin; its edge was sharp and hard. The spleen was not palpable. The urine was normal, as was the nervous system. There were no signs of tuberculosis anywhere. The further course of the disease was very favourable. When the child was discharged the liver was just palpable, but the fluid had disappeared and the nutrition had very greatly improved.

In neither case was there any evidence of syphilis obtained, either from the child or parents.

I have collected notes of seventy-two other cases from the literature,* and with this material as a basis will attempt an analysis of some points concerning the conditions. Although there was an alcohol history in every one of these cases, in several of them the alcohol had not been administered in excess, as far as was known, so that perhaps in these there was some other factor at work. This question will be discussed later.

(I) Incidence.

(A) *Cirrhosis of the Liver in Children.*

(1) *Absolute frequency.*—In the past twenty-five years it has become recognised that this condition is by no means the very rare occurrence that it had been previously considered to be. Prior to this many authorities, including Henoch, even denied its existence.

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* These are made up as follows: Eight cases recorded by Kassowitz (1); seven by Birch-Hirschfeld (2); four by Grosz (3); three each by Dickinson (4) and Taylor (5 and 6); two each by Cazalis (7), Demme (8), Emmerich (9 and 10), Goodhart (11), Lancereaux (12), Stack (13), Wilks (14 and 15), and Wunderlich (16); and one each by Abrahams (17), Barlow (18), Biggs (19), Blogowjeschtschenski (20), Brown (21), Cayley (22), Fox (23), Foxwell (24), Frerichs (25), Gee and Buzzard (26), Gerhardt (27), Goldenhorn (28), Hauerwaas (29), Haushalter and Richon (30), Hébrard (31), Laure and Honorat (32), Maggiorani (33), Marchard (34), Marfan (35), Mirinescu (36), Norman Moore (37), Müller (38), Murchison (39), Oliver (40), Osborn (41), Price (42), Reynolds (43), Roland (44), Sainsbury (45), Saunal (46), and Toedten (47).

In the older text-books but little attention is paid to it. In his last edition West (48) states that he had seen only four cases in London out of 70,000 cases of disease in children. Similarly Rilliet and Barthez (49) mention that they had seen only four cases. Alcohol was not mentioned in the account of these eight cases. As these observations were all made about half a century ago, they are practically of no value now. Neureuter (50), working at the Franz Joseph Hospital in Vienna, found hepatic cirrhosis in one in every 1000 cases, and Steiner (51) gives the same percentage. Of 8891 autopsies in the Munich Children's Hospital, Toedten (47) found thirteen cases of cirrhosis—*i. e.* 0·97 per 1000. The proportion met with in London at the present time is at least as high as this. Stack (13), in a series of 9000 autopsies on children under twelve at St. Bartholomew's Hospital and Great Ormond Street, found twenty cases of hepatic cirrhosis in children—*i. e.* 2·2 per 1000.

Howard (52) in 1887 collected the literature on the subject and found sixty-three cases below the age of eighteen. Laure and Honorat (32) in the same year collected fifty-one cases, of which thirty-three corresponded with those in the American author's series. Von Kahlden (53) in 1888 collected forty-nine cases under sixteen. Jollye (54) in 1892 collected 112 cases under eighteen. Hatfield (55) in 1896 added ninety-three to Howard's series. Musser (56) in 1901 was able to add 529 more. These, however, include 400 cases casually mentioned by Ghosh (57), but not described. They were cases of a special disease in Calcutta that will be presently referred to. In the European and American literature of the past fifty years I have been able to find some 300 cases of all varieties of hepatic cirrhosis in children.

(2) *Relative frequency, as compared with the incidence of the disease in adults.*—The evidence bearing on this question is scanty. The great difficulty in solving this problem is the fact that hepatic cirrhosis is a much vaguer condition in the case of children than in the case of adults, fading into such conditions as cardiac-tubercular cirrhosis and others that will presently be referred to. The average age at death of adult cirrhosis is forty-eight; this statement is based on 165 cases mentioned by Rolleston (58), 128 by Yeld (59), and 78 by Hilton Fagge (60), 371 in all. Price (42), examining a series of 142 autopsies on cirrhosis of the liver, found that only four were below puberty. Of 164 cases mentioned by Yeld, only seven were in children.

Of 3200 autopsies made in Virchow's Pathological Institute in Berlin between 1863 and 1868 Förster (61) found that there were thirty-one cases of cirrhosis. Of 3131 autopsies made in Kiel, Lange (62) found that there were fifty-six cases of cirrhosis. Of 4117 autopsies made in St. Bartholomew's Hospital between 1886 and 1897, Yeld (59) states that there were 164 cases of cirrhosis. Of 3053 autopsies made in Manchester by Kelynack (63) there were 121 cases of cirrhosis. I append a table giving a comparison between the statistics of autopsies on adults and children together and children alone.

(A) *Adults and children.*

Author.	Total number.	Cases of cirrhosis.	Cases per thousand.
Förster	3200	31	1·46
Lange	3131	56	1·78
Yeld	4117	164	3·98
Kelynack	3053	121	3·96
	13,501	371	2·75

(B) *Children.*

Author.	Total number.	Cases of cirrhosis.	Cases per thousand.
Steiner	?	?	1·0
Neureuter	?	?	1·0
Toedten	8891	13	0·97
Stack	9000	20	2·22
	17,891	33	1·85

It will be seen from this table that the greater frequency of the condition in adults is by no means so pronounced as is generally supposed. Another point in the table worthy of remark is the consistently higher percentage of cases found in the English statistics. These show in adults more than three times the percentage of cirrhosis that the German statistics do, and in children two and a half times as many. All writers are unanimous in stating that cirrhosis of the liver, and especially alcoholic cirrhosis, is more frequent in England than in other countries.

(B) *Alcoholic Cirrhosis of the Liver in Children.*

(1) *Total frequency.*—With the two cases here recorded, there are seventy-four cases in the literature. Grosz (3) met with the condition four times in two years in a clinic comprising 12,386 cases. Demme (8), in Berne, met with it only twice out of 44,962 cases. Kassowitz (1) says, on the other hand, that never does a session (of six months) go by without his demonstrating one or more cases of

the condition, and that the eight cases he records are chosen from a large number he has notes of. Personally, I have seen three cases in three years out of some 11,000 cases of disease in children.

The proportion of infantile cases of cirrhosis of the liver that is due to alcohol will be discussed in the last section of this paper.

Sex.—Cirrhosis of whatever cause is commoner in general in the male sex. Of 560 adult cases quoted by Rolleston (64), 73·6 per cent. were in males, 26·4 per cent. in females. Of 112 cases in children collected by Jollye (54), there were twice as many males as females. Morse (65) says that of seventy cases of biliary cirrhosis in children there were similarly twice as many in males as in females. Of sixty-three cases in children collected by Howard (52) there were also twice as many in males as in females. Of von Kahlden's (53) cases there were thirty-nine boys to fourteen girls. Many writers, such as Hatfield (66), cast doubt on this statement by referring to Birch Hirschfeld, who found twice as many cases in girls as in boys, but it is to be remembered that this author deals with only twenty-two cases altogether. The fallacies in estimating this point are not often considered. For instance, Kelynack (63) is the only writer who deals with the question of the relative size of the male and female clinic at his hospital. Roland (44) says that *alcoholic cirrhosis* in children is twice as common in males as in females, but this statement was based on only eleven cases. Of the seventy-four cases of alcoholic cirrhosis here collected the sex is mentioned in sixty-seven. Thirty-nine of these were in boys and twenty-eight in girls. Below the age of eleven the ratio was twenty-three to nineteen, above this age thirteen to nine, so that depravity on the part of the older boys does not seem to account for the difference.

(3) *Age.*—The youngest case verified at autopsy was the one recorded by Sir Thomas Barlow, the age being eighteen months. Clinically two cases have been recognised earlier, at sixteen months; this was done in Abraham's case and in the former of the two recorded in the present article. The period at which the condition most often occurred was between six and nine. A third of the cases occurred between these ages, a fifth of the cases occurred below the age of five.

We see, therefore, that cirrhosis in infancy is probably due to some cause—such as syphilis or obliteration of the bile-ducts—other than alcohol. Thus Gibbons (67) reports two cases of biliary cirrhosis, one eleven months old, and one only twelve days old.

(II) CLINICAL FEATURES.

(A) *Symptoms and Physical Signs.*

These differ but little from those met with in the adult, and as full descriptions may be found in the various text-books, such as those of Frerichs, Murchison, Rolleston, etc., on diseases of the liver, I need not detail them here. An excellent description of the clinical features of the affection in children is given by Emmerich (9). Jaundice is said to be unusually frequent in the condition (Grisez, 68), but in the accounts of the cases the skin more often appears to shew a sallow, greasy, wrinkled appearance, giving the child an aged look. Jaundice was present in only 36·5 per cent. of 293 cases collected by Rolleston (69). Repeated vomiting is sometimes a very prominent symptom, as in Marfan's case. Ascites, frequently to an astounding degree, and enlarged spleen are very constant features. Hæmatemesis is decidedly a rare symptom, and was mentioned in only two of the alcohol cases, whereas in 163 cases of cirrhosis in adults recorded by Yeld (59) and Sears and Lord (70) it occurred in 23·3 per cent. The interesting series of nervous symptoms described in cases recorded by Homen (71), Ormerod (72), and Gowers (73) has not, so far as I am aware, been observed in any of the alcoholic cases except in that of Gee and Buzzard (26); indeed, Hatfield (74) comments on the remarkable absence of nervous symptoms in the cases of alcoholic cirrhosis in children. The curious osteoarthritic changes described in some of the biliary cases by Gilbert and Fournier (75) and others have not been described in any of the alcoholic cases.

(B) *Diagnosis.*

The problems of diagnosis are very different from those encountered in similar cases in the adult, and are decidedly more difficult. There are several reasons for this. In the first place the clinical picture of cirrhosis of the liver is more closely simulated by non-hepatic diseases in the case of children. Then there are more causes of uniform enlargement of the liver to be considered with children. Further, even where the diagnosis has been established, there is a greater variety of causes to be analysed in the case of children than in the case of adults. The latter problem—of unravelling the cause of the cirrhosis in a given case—I will consider in the next section, and will deal here only with the differentiation of hepatic from non-hepatic disorders.

Unquestionably the two conditions that simulate the clinical picture of hepatic cirrhosis most closely are morbus cordis and tubercular peritonitis. Taking the latter affection first, it will be seen that both the symptoms and physical signs may be very much like those met with in cases of cirrhosis. Gastro-intestinal irritation and malnutrition are the prominent symptoms in both conditions. The child presents in both the uncommon combination of general wasting with a swollen abdomen. On examination of the latter, enlargement of the spleen with ascites may be found, and the tumour felt has many similar features in the two cases. The mass commonly felt in tubercular peritonitis is a thickened, rolled, great omentum which lies transversely across the upper part of the abdomen and often has a hard, sharp lower edge. The mistake of confusing this with an enlarged liver can usually be avoided by careful palpation of the outer portion, where the mass ends, leaving a space where the normal liver may be palpated at an obviously higher level; the movement with respiration is also less than that of an enlarged liver, and the mass is less regular as a rule. Other points of resemblance in the two affections are the presence of a moderate degree of pyrexia, the occasional occurrence of pigmentation of Addisonian distribution, of albuminuria, and œdema of the ankles. Several of the cases in this series illustrate well this source of error in diagnosis; for instance, Marfan's case was operated on for a supposed tubercular peritonitis. The differentiation of the two conditions lies chiefly in, besides the points just mentioned, the detection of signs of biliary obstruction in the one case and of masses in other parts of the abdomen in the other. The use of the tuberculin test, or the discovery of tuberculosis elsewhere, is of relatively little value, as hepatic cirrhosis is so frequently complicated by this secondary infection.

An even more important source of error in diagnosis is the enlargement of the liver that is sequential to heart disease. The difficulty is much less in the case of chronic endocardial lesions than when adherent pericardium is present. The discussion of the latter condition and its relations to hepatic cirrhosis will be left to the next section of this paper.

This problem is usually thought to be complicated by the late appearance of true cirrhosis in heart disease. The question whether hepatic cirrhosis is ever due to passive congestion only, and if so how frequently, has been much discussed since the days Becquerel (76) considered that this was the cause of half the cases of cirrhosis, a view that was supported by Rokitansky (77), Henle (78), and others. The trend of modern opinion is in the direction of denying to this mechanism anything more than the slightest importance, and it is at present thought that, except for a slight replacement fibrosis, any hepatic cirrhosis that occurs in these cases is due to infection of a badly nourished organ. It is certain, as Rolleston (79) points out, that advanced passive congestion may exist for long periods without the development of cirrhosis. Clinically, heart disease in children resembles cirrhosis of the liver more than in adults, chiefly because dropsy in children usually begins in the abdominal cavity and because the liver more readily swells and is more easily felt in the case of children; again, wasting is a more prominent feature of heart disease in children than in adults. We may therefore have a thin child with full abdomen, in which may be found a slightly tender enlarged liver and spleen with ascites; albuminuria and gastro-intestinal derangement, of course, occurs in both. The enlargement of the spleen is constantly greater in hepatic cases, as was proved by Kelynack's (63) investigations. Routine examination of the heart in these cases should be sufficient to prevent this error, which usually arises from non-recognition of the ease with which it can be made. It must be borne in mind that morbus cordis in children may shew itself by abdominal symptoms alone, there being no cyanosis or even dyspnœa to draw special attention to the heart.

(c) *Other Manifestations of Alcoholism.*

Alcohol has caused in children practically all the ill effects that may be seen with adults. Thus delirium tremens has been described by Cohn (80), Coulon (81), Delobel (82), Demme (83), Förster (61), Kassowitz (1), Ladraque (84), Madden (85), Moreau (86), and Weiss Sadler (87); alcoholic insanity by Bourneville (88), Bourneville and Baumgarten (89), Bourneville and Boyer (90), Combe (91), Edmunds (92), Kassowitz (1), Morel (93), Rodiet (94), and Tamburini (95); alcoholic neuritis by Collins (96), Grosz (3), Jacoby (97), Jakob (98), Kassowitz (1), Lancereaux (12), Leszynski (99), Rodiet (94), and Allen Starr (100); chronic meningitis by Bourneville (101), Combe (102), and Herter (103), and dipsomania by a series of writers, a large number of cases being recorded by Descuret (104), Icard (105), and Moreau (86); Emmerich (9) even records a case of the latter affection that occurred at the age of ten months. In view of these facts it is a little surprising and perhaps significant that none of these complications were mentioned as being present in any of the cases now collected, with the single exception of Lancereaux's; in this instance neuritis co-existed with the cirrhosis, as it so often does in the case of adults. In Maggiorani's (33) case there was fatty degeneration of the heart, with nephritis.

(D) *Source of the Alcohol.*

The commonest source—in over half the cases—was the parents. They usually gave it with the good intention of improving the child's condition—for debility or minor ailments. Occasionally, as in Dickinson's (4) cases, the parents were drunkards and the vice was passed on by force of example. In the rest of the cases the commonest source was the medical practitioner. It is worthy of special comment that in over a quarter of all the cases the alcohol was originally prescribed by the medical attendant—for bronchitis, measles, etc.—with such vague instructions that the parents continued the habit, with disastrous results. It is also to be noted that in three of the cases the medical attendant specifically ordered an increase of the habitual alcoholic beverage with the idea of treating the malnutrition due to the unrecognised cirrhosis. In a few of the cases infantile dipsomania was the cause. One of these cases, that described by Hébrard (31) in a boy aged 12 years, was brought dead drunk to the hospital by the police.

Practically all varieties of alcohol have been implicated in the causation. Spirits of some sort or other were the cause in half of the cases, gin accounting for half of these; wine and beer caused an equal number of the remainder. One of Emmerich's cases was due to cider. The amount administered was extremely variable, and in many of the cases remarkably small; in Abraham's (17) case a glass of lager was given to an infant once a day between the ages of six and sixteen months. It has been shewn beyond cavil, experimentally, that young animals are more susceptible to the noxious influences of alcohol than full-grown ones. This has been confirmed clinically both in chronic and acute cases. Amongst the large number of latter ones on record—nearly a hundred—a striking one is that described by Hoenerkopff (106), in which a fatal result followed the ingestion of a single dose of 2 drm. of 60 per cent. alcohol. In two cases recorded by Maschka (107) two children, aged 8 and 9 years respectively, were murdered by their stepfather, who gave them each 2½ drm. of 67 per cent. spirit. Serious symptoms have often arisen, as in cases described by Gregor (108), and Boehm (109), through absorption from an alcoholic compress. The numerous cases of serious ill effects due to the elimination in the maternal milk of small doses of alcohol may also be referred to here. A number are described by Ausset (110), Baumés (111), Carpenter (112), Combemarle (113), Demme (83), Jacquemier (114), Kassowitz (1), North (115), Périer (116), Rabuteau (117), Roubinovitch (118), Rouvier (119), Toulouse (120), Vallin (121), and Vernay (122).

The administration extended over ten years in a few cases; in several it produced cirrhosis within six months. Profound changes in the liver have been observed several times after a large single dose. Thus Casper (123) records such a case that died in nineteen hours after the ingestion of the poison. In Herter's (103) case the liver became enlarged as the result of a single dose that produced meningitis and neuritis.

(E) *Prognosis.*

Roland (44) says that the prognosis is extremely grave in these cases. He had not, in 1895, read of any case that had recovered. His search of the literature was, however, very incomplete. Hatfield (74) says that the prognosis is very bad, and quotes Birch Hirschfeld as saying that the cases in children proceed to a fatal termination with unusual rapidity. The impression, on the other hand, gained from the above series is that the prognosis is better in children than in adults when the condition is slightly marked, but worse when definite symptoms of hepatic inadequacy have set in. Generalisation of this sort on such a small series is of course very apt to be misleading, but it is certainly striking that a large proportion—quite a half—of the cases made a good recovery, while, on the other hand, the course in the fatal cases has been particularly rapid in several instances, as in the one described by Murchison, lasting altogether three or four months. The capacity of the infantile organism to compensate easily up to a certain crucial point, and its tendency to collapse readily when this is passed, reminds one forcibly of the analogous course that pulmonary tuberculosis runs in children. Here, also, we have but few cases in between the rapidly fatal cases of tuberculosis and those in which chronic tuberculosis makes relatively little difference to the child's health.

(III) VARIETIES OF CIRRHOSIS IN CHILDREN.

Before discussing what is the relative importance of alcohol in the etiology of hepatic cirrhosis in children it will be necessary first to consider what are the chief forms of the conditions met with. If we utilise a grouping modified from the one adopted by Semmola and Gioffredi (124) we may divide the diffuse cirrhoses into the following:

(A) *Vascular.*

(1) *Arterial.*—(*a*) Infective—specific fevers, syphilis, malaria, tuberculosis, gout, diabetes. (*b*) Toxic—lead, arsenic, silver.

(2) *Venous.*—(*a*) Portal—alcohol, Budd's dyspeptic cirrhosis. (*b*) Systemic—passive congestion of heart disease, obliteration of the hepatic veins.

(B) *Biliary.*

(1) *Mechanical.*—Obstruction, congenital or acquired.
(2) *Infective.*—Hanot's cirrhosis, infantile cirrhosis of India.

(C) *Capsular.*

(1) *Curschmann's* sugar ice liver.
(2) *Chronic general peritonitis,* usually tubercular.
(3) *Proliferative mediastinitis.*
(4) *Mixed types* of the last two affections. Concato's disease.

Of the arterial group, the syphilitic intercellular variety is by far the commonest and is too well known to need more than mention here. Eleven per cent. of Howard's (52) collected cases were attributed to syphilis. The specific fevers have been incriminated by many authors, scarlet fever and measles being usually thought to be the most potent in this connection. It cannot be said to be a proved conclusion as yet that clinical cirrhosis may result from these causes, in spite of the suggestive evidence adduced by Stack (13). In the course of the illnesses themselves focal necroses and acute interstitial hepatitis have been described in scarlet fever by Crooke (125), Klein (126), and Pearce (127) ; in measles by Freeman (128); in smallpox by Arnaud (129) and Roger and Weil (130) ; in hog cholera by Salmon, Smith, and Kilborne (131) ; in gastro-enteritis by Thiemich (132) ; in cholera and typhoid by Botkin (133); and in diphtheria by Councilman, Mallory, and Pearce (134). Beyond, however, the occurrence of some replacement fibrosis, it is not to be expected that a progressive condition like the common cirrhosis of the liver is often the result of causes the action of which is of so slight a duration. It is exceedingly rare for cases to occur such as that described by Pepper (135), in which jaundice occurring during measles was the direct precursor of symptoms of cirrhosis. As d'Espine and Picot (136) have suggested, it is at least likely that many cases attributed to these fevers are really due to the alcohol administered during both the acute and convalescent periods. I have remarked above that the habitual administration of alcohol by a parent frequently dates from a medical prescription during the period of convalescence from a specific fever.

Of the causes of venous origin heart disease was referred to in the previous section, and the opinion ventured that true cirrhosis very rarely results from this factor alone. An interesting, though rare, group of cases is that in which cirrhosis is associated with complete obliteration of the hepatic veins, so that the blood reaches the vena cavæ by circuitous anastomoses. The first instance of this condition, in a man of twenty-seven, was published by Rosenblatt (137). Another case, in an infant of seventeen months, was described by Gee (138), who gave cogent reasons in favour of the view that the obliteration is secondary to the hepatic condition and is not the cause of cirrhosis. A rare cause of cirrhosis by means of venous obstruction was found in a case described by Inerwohl (139) ; in it tuberculous glands in the mediastinum and in the hilum of the liver produced clinically the picture of Hutinel's cardio-tubercular cirrhosis, which was the diagnosis made during life.

Cirrhosis of the liver secondary to mechanical obstruction of the bile-ducts is an affection that does not figure so prominently in medicine as it did some years ago, and doubts are even expressed by several authorities, including Sharkey (140) and Hale White (141), as to its very existence. The reasons for this are as follows : Most of the work done on the experimental production of cirrhosis mechanically by ligature of the ducts, such as that by Meyer (142) in 1872, Wickham Legg (143) in 1873, Charcot et Gourbault (144) in 1876, Maffuci (145) in 1882, was carried out without careful aseptic precautions, and more recent experiments by Ribadeau-Dumas and Lucène (146) and Steinhaus (147) contradict the older results. Even if the operation be done aseptically the conditions in the bowel are so altered from lack of bile that toxic absorption may ensue, as was suggested by Hanot and Gaston (148). Clinically, it is an undoubted fact that obstruction of the ducts, whether by calculus or cancer, is rarely associated with cirrhosis of the liver unless clear signs of infection be present as well. Recognising the improbability of marked cirrhosis being ever due to mechanical obstruction, we are now in a position to approach the problem of the pathogeny of congenital obliteration of the bile-ducts in this light. There are at present nearly seventy cases of this condition on record [Morse (65)] ; references to fifty are given in John Thomson's (149) monograph in 1892, the earlier cases being collected by Legg (150) and Gibbs

(151). It is highly probable that the obliteration of the ducts is secondary to the hepatic cirrhosis, and that this is due to an intra-uterine infection. Rolleston (152) deals fully with this subject, and supports the primary cirrhosis view by the following arguments: This obstruction is never found without cirrhosis, whereas other causes of obstruction are rarely accompanied by cirrhosis; both the liver and spleen are much larger than in any other obstructive conditions, and resemble more the large organs found in infective biliary cirrhosis, such as Hanot's type.

The infective biliary cirrhosis is not infrequently met with in children. Gilbert and Fournier (153) describe a special type in which lack of development—a condition that they term "hepatic infantilism"—is a marked feature. Folger (154) describes similar cases. The symptoms differ from those of portal cirrhosis in the same striking respects as is seen in the adult cases. A peculiar variety of biliary cirrhosis in children, which is not known certainly to occur in Europe, is met with in India, especially around Calcutta. Hindoo babies are chiefly affected. The disease usually begins between the ages of six and twelve months, with the customary symptoms of biliary cirrhosis—deepening jaundice, fever, hepatic and splenic enlargement. The mortality is 95 per cent. Full descriptions are given by Gibbons (155), Mackenzie (156), Sircar (157), and Ghosh (57); the last-named has seen over 400 cases.

Turning now to the *capsular cirrhoses*, we find that the chronic perihepatitis, described especially by Curschmann (158) and Hale White (159) is, perhaps, the rarest cause of cirrhosis in children. This is, no doubt, due to the degenerative character of the lesion, which is shown by, amongst other things, its close association with arteric sclerosis.

Chronic perihepatitis may occur, apart from the above well-defined condition, under two circumstances—first, by extension from a chronic diffuse peritonitis, which is nearly always tubercular, and secondly, by extension from an adherent pericardium. Neither of these affections produces any advanced degree of cirrhosis, and they are usually called pseudo-cirrhosis. Their symptoms are mainly those of portal obstruction with but little evidence of hepatic inadequacy.

(*To be continued.*)

HISTORICAL NOTES ON RICKETS.

By James Burnet, M.A., M.D., M.R.C.P.Edin.

There can be no doubt that by a close and careful study of the history of disease many interesting facts may be gleaned, without which many diseases are apt to appear very commonplace. This is so with regard to rickets, and accordingly it may not be altogether without value if I set down a few notes regarding the history of rickets which I have gleaned during a recent survey of the medical writings of the seventeenth and eighteenth centuries.

So far as I can discover, the first work bearing on this disease was written by Franciscus Glisson and published in 1580. The full title of this volume is 'Tractatus de Rhachitide, seu morbo puerili Rikets dicto.' His contention is that the disease first showed itself in the East of England in 1540, and spread thence all over the country. Glisson's views, however, as to the real causation of the disease are very distorted and fanciful. He thought that the bending of the bones which takes place is largely due to unequal distribution of their nutritive juices. A French writer (Reusner) two years later wrote about a disease which he found prevalent in Switzerland and Holland, and in which bending of the bones was a prominent feature. Coming to the seventeenth century, we find that one or two important writings appeared on the subject. Thus in 1676 Georgius Francus published in Heidelberg his 'Dissertatio de Rhachitide Anglorum.' Thus we can readily see how Glisson's influence was promulgated, and how rickets has come to be looked upon as the English disease.

It is in the eighteenth century, however, that we find most work done in connection with rickets, which seems to have been much studied during this period, both in Britain and on the Continent. Thus in 1704 Vaux published his 'Dissertatio de Rhachitide,' and in 1713 Vater followed with a work called 'Dissertatio de morbo in Lantum Rhachitide.' At Jena, in 1735, appeared a quarto volume entitled 'De atrophia Infantum Rhachitica,' written by Zeichmeyer. A curious work was issued in 1726 by Ghuden, and published at Leipzig; the title is 'Methodus Novus Præservandi et Curandi Atrophiam sen Maciem Infantum, et per Consequens morbum sic dictum Anglicum.' At least a dozen works bearing on this subject were published in Edinburgh during this century. The writers' names are practically unknown to most workers at the present time, but we may specially mention the writings of Sutton (1731), Ecroyd (1755), Nooth (1766), Moore (1778), Pyne (1785), Barton (1786), and Sproule (1787). An important treatise from the pen of Giovanni Zeviani was published in Verona in 1761; its title is 'Trattato della cura dei bambini attacati della Rachitide' ('Treatise on the Cure of Children affected with Rickets'). A curious book is 'A Particular Account of the Rickets in Children, and on its Analogy with the King's Evil,' an octavo published in London in the year 1792. At Naples three years later was issued a work on rickets by Verardi. In 1787 we find a complete treatise on "the English disease" appearing; it is written by Cappel. An interesting work on the history of rickets was published in Vienna by De Kezowitz in the same year.

It is a curious fact that no reference to this disease appears in the works of Hippocrates, although certain passages in the 'De Articulis' read as if the writer had this disease in his mind. Galen and Celsus are equally silent on the subject. So far as I can discover rickets is a disease of modern life, and Glisson's view that it commenced in the middle of the sixteenth century may not be so far amiss, although his ideas as to the actual causation of the disease are extremely primitive. It is certainly astonishing, however, to find on reading some of the works referred to how near the truth these writers, even with their very limited knowledge, came in those days. Reference is made to the relationship existing between rickets and syphilis on the one hand and scorbutus on the other. Thus Antonie Portal, in a work entitled 'Observations sur la Nature et sur le Traitement du Rachitisme, ou des Courboures de la Colonne Vertébrale et de celles des Extrémities Supérieures et Inférieures,' describes a case, certainly in a girl aged 10 years, in which he observed the simultaneous occurrence of rickets and scorbutus.

These notes are necessarily very rough, but they serve to show how important a disease rickets was regarded as being even before our times. It was then, as now, a disease over which much discussion took place as regards its ultimate causation. Portal seems to have regarded rickets as merely a complication of other diseases, such as syphilis, scorbutus, or scrofula; but even so late as the end of the eighteenth century we find it constantly stated that the writers are quite ignorant as yet regarding the true character of this disease, which they maintain probably never exists as a condition *per se.*

The Society for the Study of Disease in Children.

A SPECIAL meeting of this Society, for the discussion of rickets, was held at 11, Chandos Street, on December 14th, 1906, Dr. E. CAUTLEY in the Chair.

The subject for discussion was taken under the following five heads:

Etiology.—This was opened by Dr. DUDGEON, who commented on the following points: Rickets is mainly a disorder of temperate and cool climates, and appears to increase in frequency with progress of civilisation. It is very common in Europe, but very rare in India and Japan. The two main points of etiology are errors in diet and bad hygiene. The disease is not common in nursing mothers unless lactation be unduly prolonged, except in the case of Italian or Negro children. The three great theories which have been advanced to explain rickets are mainly directed against the bone changes. The speaker then alluded to Hertzman's experiments with lactic acid and the lime theory, and to Mr. Bland-Sutton's experiments at the Zoological Gardens, and to the recent work of Dr. Chalmers Watson in Edinburgh on the bone-changes in young rats fed on beef. Dr. Dudgeon said there was no doubt that bad hygienic conditions were of importance in the production of rickets, as young puppies in laboratories were specially liable to develop rickets owing to deficiency of light and air. Dr. Dudgeon also discussed the toxin theories which he looked upon as refuges for the destitute pathologist.

Symptoms and diagnosis.—Dr. POYTON, in introducing the discussion upon the symptoms and diagnosis, remarked that there was general agreement that rickets was a constitutional disease, the symptoms commencing generally in the first two years of life. Early warnings were anæmia, general flabbiness, and profuse sweating about the head. The osseous changes were often the first symptoms to attract attention. He thought uneasy sensations rather than pains in the bones occurred, and much tenderness pointed to scurvy or osteo-genesis imperfecta. Complete fractures he thought less common than supposed, and if there were several of these this also suggested osteo-genesis imperfecta. Muscular feebleness might, especially among the well-to-do, be much more evident than bony deformities, and sometimes these children were exceedingly fat. Head-rolling in rickets he attributed to dentition, ear disease, or uneasy sensations in the cranial bones. Cranio-tabes and Parrot's nodes might occur, but were much more common in syphilitic rickets. The nervous symptoms were laryngysmus stridulus, tetany, and convulsions, and very possibly spasmus nutans. Kirchgasser found rickets in 89 per cent. of the cases of laryngysmus, and 79·8 per cent. of tetany. Dr. Poynton thought it was not possible, when a convulsion occurred in a rachitic child, to state whether or not this might be the beginning of true epilepsy. Shuttleworth had found mental hebetude and backwardness to be results of rickets. Important respiratory affections were bronchitis, broncho-pneumonia, and pulmonary collapse, and, of equal importance, gastritis, gastro-enteritis, and entero-colitis. The circulation was feeble, with hæmic murmurs, but he thought no organic bruits resulted from rachitis. The anæmia was a simple one. The liver and spleen were often palpable and sometimes enlarged. The urine was not distinctive. The course of the disease varied, and under adverse circumstances might persist up to ten years, and even later. He believed fœtal rickets did exist, and as regards late rickets suggested three points for debate—(1) Was it a true rickets? (2) Granted this, Was it a relapse of an early rickets? Or (3) Might it develop entirely *de novo*? Under the diagnosis he alluded to latent cases, to syphilitic rickets, in which marasmus, cranio-tabes and Parrot's nodes, and an enlarged spleen were frequent, to achondroplasia, to combined rickets and achondroplasia, and to scurvy. Osteo-genesis imperfecta he believed to be a separate disease characterised by—(1) frequency of congenital origin; (2) frequency of fracture; (3) softness of bones; (4) failure of antirachitic and antisyphilitic remedies. Cretinism was frequently mistaken for rickets. Lastly, he alluded to difficulties in the diagnosis of infantile paralysis, spinal caries, and abdominal tuberculosis from rachitis.

Pathology and morbid anatomy.—Dr. W. A. MILLIGAN opened the discussion on the pathology and morbid anatomy of the disease. After discussing the various experiments performed on animals with a view to ascertain what the essential pathology of rickets was, Dr. Milligan pointed out that no definite result had, as yet, been attained. As regards the morbid anatomy, it was shown that the osseous system was the one which afforded most proof of the presence of rickets. It was remarkable that a disease manifesting so many muscular and nervous symptoms was devoid of any morbid anatomy in these systems. The visceral changes were then dealt with, and it was pointed out that the spleen was the organ most commonly affected. The changes found consisted in a hyperplasia of the normally existing fibroid tissue in the liver, spleen, and lymphatic glands. Specimens and microscopic sections were shown to illustrate the various lesions.

Surgical aspect.—Mr. BETHAM ROBINSON, in opening the discussion from its surgical aspect, drew attention to those common deformities with which the surgeon has to deal, He made special reference to genu valgum, and considered it offered some points for discussion. The use of skiagraphy has thrown considerable light on the pathological conditions present. MacEwen's and Mikulicz's views were referred to, and especial attention was drawn to the change taking place in the tibia as described by Morton, of Bristol. This tibial curve demanded that a wedge should be removed from that bone, which might satisfy all requirements. By this operation the line of the knee-joint was kept straight, and the vertical line of pressure passed downwards through the tibia. Whatever operation was performed an associated coxa vara limited often a satisfactory result, and it might be desirable in such cases to deal with that also. Mr. Robinson laid down the indications for operating in cases of genu valgum. He would not operate on a case under five years of age, and then particular care must be taken to see that no active rickets was still present. It was difficult to give an exact figure for the amount of separation of the malleoli as an indication, and it must be a question of personal judgment in every instance.

Treatment.—Dr. R. HUTCHINSON, in opening the discussion on the treatment of rickets, showed the chief faults in diet of importance were deficiency of fat and proteid and excess of carbohydrates, relative or absolute. In a bottle-fed child the food is often too dilute or contains too little fat. Beyond the age of twelve months oat-flour which is rich in proteid and fat is useful; half the yolk of an egg may be given daily. Raw meat juice, freshly prepared, is a useful addition in cases of anæmia; or in children of eighteen months or upwards a little pounded underdone meat may be given instead. Next comes general hygiene. Fresh air and sunlight are of the greatest importance, but chills must be guarded against. In medicinal treatment cod-liver oil takes the first place, being an easily assimilated form of fat; but an emulsion of cotton-seed oil with oleic acid seems to give equally good results. Iron may be given for anæmia. Phosphorus has a good reputation abroad, but as it is given in an oily solution the benefit may be possibly due to the vehicle; and if the drug be imperfectly dissolved poisoning may result, and in some cases symptoms resembling phosphorus poisoning have occurred. Lecithin is useful, and is best given in its natural form in the yolk of egg. Loss of appetite is combated by fresh air. In bronchitis cough mixtures should be avoided as far as possible, and cod-liver oil given. In diarrhœa care should be given to warm flannel covering to the abdomen and legs, while small doses of opium are useful for the large, pale, foul-smelling motions. Neuroses are most effectually treated by chloral. The osseous deformities may be safely left alone, as they generally rectify themselves in time.

Editorial.

THE DISCUSSION ON RICKETS AT THE SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.

The Society for the Study of Disease in Children held a special meeting in December last for the discussion of rickets, but it cannot be said that any fresh light has been shed thereby on this interesting, widespread, and not unimportant disorder.

Dr. Dudgeon, who introduced the discussion on etiology, reviewed all the time-honoured views as to its causation, and characterised the theories of its toxic origin as refuges for the destitute pathologist.

But the future will doubtless have some further observations in store on this question. Certain it is that it is quite rare to find rickets without chronic bowel troubles, and when the chemistry of this region becomes better known more unlikely things may happen than that this complaint will be found to take its origin in toxins produced in this region of the body. A disease which shows such widespread clinical phenomena may well be due to a diffusible and wide-flowing cause.

Dr. W. A. Milligan, who initiated the discussion on the section of pathology and morbid anatomy, reviewed what had been done in the past and emphasized the remarkable fact that a disease exhibiting so many muscular and nervous symptoms was devoid of demonstrable changes in these systems. The importance of fresh air and sunlight in warding off rickets is accepted; nevertheless, the worst examples of this complaint are often to be seen at the doors of country cottages or waddling down the village streets. The notoriously "stuffy" dwellings of these ruralists may in great measure explain this apparent contradiction.

It has not been our experience that the spleen is commonly affected or that the organ is often palpable. It is a frequent occurrence to find cases of advanced rickets without splenic enlargement, and the bulk of rickety children show no trace of splenic hyperplasia. Splenomegaly is often found in infants who are not rickety during the first six months of life, and many of the cases of splenomegaly from the twelfth month to the second year are not in a mild degree rickety, and it appears to us, as shown by George Carpenter, that splenomegaly is an epiphenomenon in this disease.*

A more explicit ruling on the subject of craniotabes and Parrot's nodes than the statement that these signs are much more common in syphilitic rickets would have been welcomed.

Apparently there is a fresh swing of the pendulum of medical opinion, and signs which were once deemed to be purely syphilitic and subsequently were thought to be rickety only are now looked upon in the main as syphilitic.

Carpenter has demonstrated that craniotabes is commonly found within the first four months of life, a period when rickets is but little, if at all, in evidence.† Further, that this sign is very infrequent indeed at the ninth month. Thus during the pre-rickety period craniotabes is a marked feature, and where rickets is pronounced craniotabes is rarely discovered. He has also shown that this phenomenon, though often syphilitic, cannot always be explained in this way.

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* "On Splenomegaly in Infants and Young Children,' 'Reports of The Society for the Study of Disease in Children,' vol. iii, pp. 296–317.

† "A Case of Scurvy in a Craniotabic Infant, with Observations on Craniotabes," *ibid.*, vol. iii, pp. 214–216.

Carpenter also, in a series of cases of Parrot's nodes* recorded by him, found that 57 per cent. were obviously syphilitic, and that the majority were rickety, but only in about half the number of such cases was rickets either marked or very pronounced. Further, that craniotabes and Parrot's nodes are rarely to be found associated, but that sometimes the former condition precedes the latter and may even disappear before the incidence of the osteophytes. He also made the original observation that more than half of the cases suffered from splenomegaly, and splenomegaly is not common in rickets. The weight of evidence, we think, appears to be in favour of Parrot's nodes being a syphilitic and not a rickety manifestation.

Exception may fairly be taken to the use of the term "syphilitic rickets." It does not appear that there is a special variety of rickets which is peculiar to syphilis. Syphilitic rickets is rickets pure and simple. Syphilis predisposes to rickets, and syphilitic children, therefore, frequently become rickety, but there is nothing characteristic about the disorder which warrants the use of the adjective syphilitic. Dr. Poynton, who opened the discussion on symptoms and diagnosis, had some novel suggestions to offer to explain head-rolling in rickets, which he attributed to dentition, ear disease, and uneasy sensations in the cranial bones.

Mr. H. B. Robinson, reviewing the surgery of the affection, gave a historical retrospect, and more especially drew attention to genu valgum and the researches of Morton, of Bristol, on this affection. Dr. Robert Hutchison gave a good *resumé* of what has been done in the past in regard to treatment, but was unable to offer any therapeutic novelties.

In the current number will also be found some interesting historical notes on rickets by Dr. James Burnet, of Edinburgh.

Perusing the deliberations of this special meeting it is clear that although much is known in regard to rickets there is still more to be learned. When next the subject comes up for discussion at the Children's Society it is hoped that material advances will have been made in the etiology of this disease. But the meeting, though barren in some respects, has been productive of great good in showing the necessity that exists for further observations and research.

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* 'Syphilis in Children,' p. 73.

Abstracts from Current Literature.

Medicine.

The early diagnosis of measles (*'Arch. Gén. de Med.,' March* 13, 1906, *p.* 669).—**Brelet** prefaces his article by insisting on the importance of attempting, in spite of the difficulty, to recognise measles during its early infectious period. Many clinicians consider this impossible, as there is nothing characteristic in the early symptoms—the slight malaise, fugitory erythemas, passing rises of temperature. However, there are two symptoms that are of much greater value in this connection. The first, consisting of a premorbillar loss of weight, was pointed out by Meunier in 1898. This fall begins on the third, fourth, or fifth day of incubation—therefore five or six days before the fever of invasion and eight or ten before the eruption. In a child it averages 60 grms. a day. This has been found very useful in schools or hospitals, where "contacts" may be weighed every day. The second sign was indicated by Combe in 1899, and consists in a premorbillar polynuclear hyperleucocytosis. This begins at the onset of the incubation period, and reaches its maximum at about the sixth day before the rash appears; it is then often treble the normal count. Then the count falls to normal, and is often below this by the time that the rash appears.

After the onset of the disease there are many sources of error in diagnosis. The most certain way of making a diagnosis before the appearance of the rash is to examine the mouth carefully. Henn has described a peculiar erythema which occurs on the soft palate a day or two before the eruption. It is composed of bright-red, prominent spots with well-defined contours. In 1895 Comby insisted on this buccal erythema, which he entitled "erythemato-pultaceous stomatitis." The mucous membrane of the gums, lips, and cheeks is swollen, takes on a reddish-violet colour, and is covered with a whitish, opalescent deposit. This stomatitis may precede the skin-eruption by twenty-four hours; it is not, however, peculiar to measles. The most valuable sign found in the buccal cavity is that described by Koplik in 1896. The characteristics of these spots are as follows: The base is red, irregular, starry, and may join neighbouring spots. The centre, which is the pathognomonic feature, is a bluish-white point, rounded, and very small; it is never more than a millimetre in diameter, and usually less, which feature distinguishes it from other kinds of stomatitis; it is slightly prominent, and can be detached only with difficulty; it never ulcerates or joins with its fellows; it disappears in from three to five days; it is never seen on the gums. The number is very variable, but averages from six to twenty. If a good light is used they may be seen in about 80 per cent. of the cases. The commonest day of occurrence is the second before the eruption.

ERNEST JONES.

Medico-pedagogic treatment of idiots (*'Arch. de Neurol.,' April, May,* and *June,* 1906, *vol.* XXI).—**Bourneville** contributes another of his exhaustive monographs on this subject. It is 134 pages long and has twenty-five plates. Most of the space is taken up by a detailed description of ninety-eight cases that have been under his care of late years. The disposing of different classes of imbeciles in different institutions according to their grade is first discussed. Bourneville has nearly 700 low-grade imbeciles under his personal charge. The main thesis of the article is that such cases are more responsive to skilled medico-pedagogic treatment than is generally supposed. The proof of this assertion is given by the accounts of the cases described. These make interesting reading, though not suitable material for abstracting purposes. ERNEST JONES.

Moral backwardness (*'Osterreichische Gesellschaft f. Kinderforschung,' May* 12, 1906; *'Monatsschrift für Kinderheilkunde,' May*, 1906, *vol.* v, *p.* 104).—**A. Pilcz** read a paper on this subject. The legal notion of moral defectiveness is very simple and easy, but the scientific view is more complex. The defective sphere has much more influence on ethical feeling than has the intellectual. Therefore, as intelligence and moral feeling are relatively independent of each other, defect may be present in one alone. In other words, perversion of altruistic feeling may co-exist with intact intelligence. Pilcz showed a boy, aged 15 years, who had been confined in an institution for three years because he was so undisciplined that he could be controlled neither in school nor in the reformatory. He was a thief and liar, wicked, impudent, cynical, and shameless; on the other hand, he was well developed intellectually; he contrasts with the numberless cases in the same institution of simple feeble-mindedness patients that were quite harmless and obedient. This boy was quite refractory to all efforts at improvement. In the discussion that followed, the reaction against Lombroso's fatalistic views was commented on, and the importance of the early environment in creating such a condition emphasised. ERNEST JONES.

Vincent's angina (*' Cleveland Med. Journ.,' June*, 1906).—**Ladd** points out that in children there frequently occurs an inflammatory pseudo-membranous condition, which closely resembles diphtheria. The affection was described by Vincent and presents itself in (1) an ulcero-membranous and (2) a diphtheroid form. The first commences generally in the upper angle of the tonsil as a grey membranous area of necrosis, which bleeds readily when touched. Later a crateriform ulcer is formed, covered with necrotic tissue, fibrinous exudate and pus, which lasts from a few days to six weeks. In the diphtheroid form there is simply a membranous inflammation. Microscopical and bacteriological examinations of scrapings from the affected area show fusiform bacilli and spirochætæ, and on these findings is the diagnosis made. Treatment consists of local applications of iodine, silver nitrate, or other antiseptic lotions. T. R. WHIPHAM.

Meningitis in infancy (*'Journ. Amer. Med. Assoc.,' vol.* XLVI, *No.* 25).—**Morse** in a consideration of forty cases of meningitis states that the symptoms of the two types—tubercular and cerebro-spinal—frequently differ from the usual descriptions. Thus the onset of tubercular meningitis may be sudden and accompanied by convulsions, or it may be gradual, as in the cerebro-spinal type. The duration may be very short, merely a few days, in the tubercular, and prolonged in the cerebro-spinal. Rigidity of the neck, paralysis, spasms of the limbs, Kernig's sign, and increase of cerebral pressure were more marked in the cerebro-spinal form, but all other signs, such as temperature, mental state, bowels, vomiting and convulsions were practically the same in both. In 25 per cent. of the tubercular cases there were neither history nor other signs of tuberculosis. Lumbar puncture produced a beneficial effect, but only temporarily, and had no influence on the course of the disease. The author maintains that a diagnosis between the two forms is impossible from the symptoms, and can only be made by examining the cerebro-spinal fluid. T. R. Whipham.

Periodic vomiting a manifestation of hysteria (*'Rev. Mens. des Mal. de l'Enf.,' July*, 1906).—In **Fischl's** opinion periodic vomiting is in a certain number of cases of hysterical origin. The condition may be the manifestation of a latent hysteria or the first sign of an active outbreak. The acetonæmia accompanying the attacks does not justify a refusal to regard the condition as hysterical, for acetone is sometimes present in the urine of hysterical children who have no gastric disturbance; in such cases the acetonuria must be considered as due to nutritional disorders set up by the hysteria. And, again, there are cases of periodic vomiting with acetonuria in which it is impossible to exclude hysteria as a causative factor. The author, therefore, suggests that acetone should be sought for in the urine of hysterical children, and that hysteria should be borne in mind when seeking the cause of recurrent vomiting in order that a treatment by suggestion may be carried out. (*Vide* Journal, p. 93.) T. R. Whipham.

Malaria in children (*'Montreal Med. Journ.,' August*, 1906).—**McGibbon** writes: the cold stage in children is rare, especially in hot climates, and when present is more like a mild collapse than a chill. The sweating stage is less pronounced in the higher than in the lower altitudes. Bronchitis and diarrhœa are quite constant in patients under five years and with the fever constitute most valuable diagnostic symptoms. McGibbon considers the importance of bronchitis in leading the physician to suspect malaria is greatly under-estimated. He quotes a case of a baby aged three months, with severe dyspnœa, cough, hoarseness, nasal catarrh, and diarrhœa. The child was collapsed and the rectal temperature 104·8° F. There were signs of capillary bronchitis in the chest, and the fauces and pharynx were reddened and inflamed. The blood contained hæmamœbæ in the sporulating stage. The administration of quinine caused a rapid and complete recovery in three days. J. Porter Parkinson.

Simple hereditary traumatic pemphigus (*'Journ. de Méd. de Bordeaux,' September* 6, 1906).—**Auché.**—Two groups are recognised—one where healthy children have a tendency from birth to develop bullæ on parts of the body exposed to pressure, rubbing, or heat—the bullæ heal easily; the other is the frequent production of bullæ every now and then on spots of pressure or traumatisms, which, healing, leave cicatrices. A case is recorded of a boy, aged 10 years, whose mother and maternal uncle and cousins suffered from the eruption. The boy had had a similar eruption on and off since birth. At the time of writing the following bullæ were present or had recently been present: six on the dorsal and six on the plantar aspect of the right foot and toes, two on the dorsal and six on the plantar surfaces of the left foot and toes. Round the waist were numerous bullæ. Some had appeared at times on the legs and hands. Apart from the eruption the boy seemed in perfect health. The contents of the bullæ contained six to eight eosinophiles to 100 leucocytes. The blood contained 4 to 6 per cent. of eosinophiles during the presence of the eruption; when that disappeared they fell to 2 to 3 per cent.

J. Porter Parkinson.

Gastric radioscopy: the infant's stomach (*'La Presse Méd.,'* 1906, *No.* 63, *p.* 503).—**G. Leven** and **G. Barret.**—(1) *Form and situation.* In the adult the stomach presents a vertical direction, with a right border corresponding to the greater curvature, the left border formed by the lesser curvature, the whole organ being contained in the left hypochondrium (Fig. 1). In the infant the aspect is entirely different; the gastric cavity appears *transverse*, the greater curvature forms its *lower* horizontal border, and it occupies both hypochondriac regions. Altogether it has the shape of a bag-pipe, attributed by the classic writers to the adult stomach. This form, which is never seen in the adult, appears, on the contrary, to be normally that of the infant's stomach (Fig. 2). (2) *Inferior limit.* In the normal adult it corresponds most frequently to the umbilical region, and the lowest point remains almost fixed, whether the stomach be empty or full. In the infant, owing to its horizontal position, the lowest point of the stomach is the middle of the greater curvature, and is very movable. When quite full it reaches the umbilicus, or even below it, and then its lower limit rises as the gastric contents are emptied. (3) *Manner of filling.* The stomach of the normal adult adapts itself to the size of its contents spontaneously, so that it seems always equally full whether it contains 40 or 400 centimetres. When, however, the stomach is dilated, it fills like an empty pouch of known capacity, and the level of the fluid rises in pro-

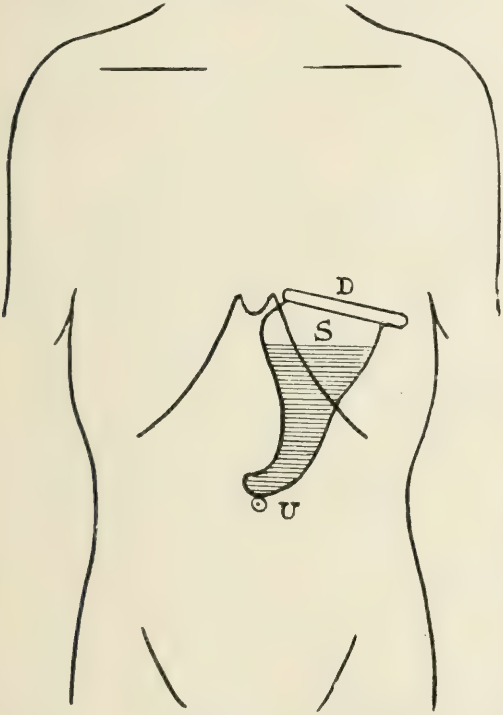

Fig. 1.—Adult stomach containing 80 grammes of bismuth emulsion. D. Diaphragm. U. Umbilicus. S. Stomach.

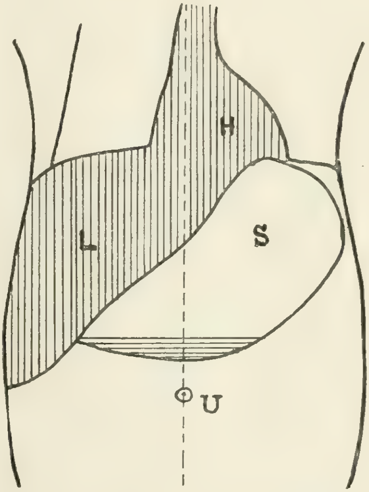

Fig. 2.—Infant stomach after ingestion of 15 grammes of milk. H. Heart. L. Liver. S. Stomach.

portion to the amount taken in. In the infant the stomach normally behaves like the dilated stomach of the adult. As soon as a small quantity of milk enters the stomach the gastric cavity is seen to its full extent; the fluid forms a horizontal layer at the most dependent part (Fig. 2). All the remainder of the organ, filled with gas, appears as a tympanitic area. On moving the infant on its side the liquid can be displaced. As the quantity taken in increases the level of the fluid rises and the space filled with gas diminishes. The inferior border becomes lower, but the gastric cavity does not enlarge, but remains inert, while its contents increases (Fig. 3). (4) *Evacuation of milk.* This inertia of the contents lasts but a short time, at the end of which the stomach reacts in a manner peculiar to the infant.

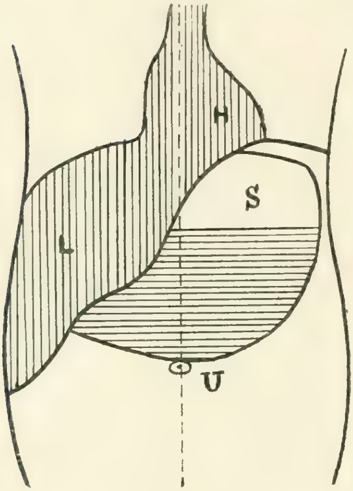

FIG. 3.—Infantile stomach after a feed of 100 grammes.

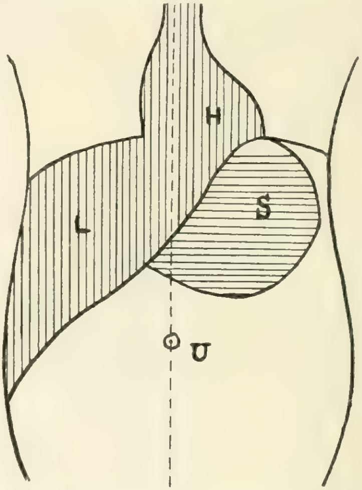

FIG. 4.—Infantile stomach in a state of contraction.

When the stomach contains a certain quantity of milk (about 80—175 cm.) and the feed is suspended, after a few seconds or minutes the whole stomach contracts forcibly and then presents a globular form, having all its dimensions reduced, the air-chamber being scarcely visible (Fig. 4). This state of contraction seems to last till evacuation is complete, the lower border rises little by little, and the round mass of the stomach becomes gradually reduced in proportion as it becomes empty. This process is quite different to that which takes place in the adult, where contraction *en masse* after ingestion is exceptional and always of short duration, while limited contractions occur chiefly in the pyloric region. (5) *Duration of stay of milk in the stomach.* Observations made on infants from two to six months old, by giving 80 to 175 cm. of mothers' milk or diluted cows' milk, showed that evacuation lasted from one and a half to two hours in both cases.

VINCENT DICKINSON.

Enteritis and appendicitis in children ('*Rev. Mens. des Mal. de Enf.*,' *August*, 1906).—**Guinon** has observed in his own practice twenty-eight cases of appendicitis, of which twenty-three cases were preceded by some form of enteritis. In the causation of the various forms of enteritis he attributes great importance to naso-pharyngeal infection (usually associated with adenoids), which he observed in seventeen of his twenty-eight cases. He regards, therefore, the removal of adenoids and the treatment of enteritis as being of great importance in the prophylaxis of appendicitis.

Wilfred Trotter.

The relation of entero-colitis in children with naso-pharyngeal infections (‘*Rev. Mens. des Mal. de l'Enf.*,’ *August*, 1906).—**Roux and Josseraud** have examined a number of children with the object of discovering what, if any, relation subsists between naso-pharyngeal infections and entero-colitis. They have never found a case of entero-colitis without some evidence of acute or chronic infection of the naso-pharyngeal lymphoid tissue. They doubt whether any case of entero-colitis can exist without some such infection. The authors briefly report forty cases in which the coincidence was observed. There is a manner of much certitude about their communication, and the impression is given that they take a somewhat liberal view of the conditions which can be defined as adenoids.

Wilfred Trotter.

The relation of convulsions in children to epilepsy (‘*Lancet*,’ *September* 15, 1906).—**R. O. Moon** finds that the prognosis of convulsions occurring from peripheral irritation is not quite so good as is generally supposed. Of fifty cases of convulsions associated at their onset with some extrinsic cause, such as rickets, fevers, etc., in 40 per cent. the convulsions ceased after the removal of the apparent cause, while in 36 per cent. they continued. Among the fifty cases arising from no apparent extrinsic cause, in 30 per cent. of cases they ceased, while in 44 per cent. they continued. Epilepsy would not be so serious a disease if it were only the fits that had to be considered. With regard to the question of mental impairment we find that among those whose convulsions arose without any obvious cause 18 per cent. showed definite signs of mental weakness, while of those arising from reflex cause 23 per cent. suffered in this way. Coming to the question of moral impairment, Moon finds that a somewhat larger proportion of the cases due to reflex causes exhibit moral deterioration than of the idiopathic cases. He further states that a radical unsoundness of the central nervous system is a more important factor in the production of infantile convulsions than any extrinsic cause. It seems difficult to avoid the belief that convulsions in infancy associated with reflex causes have a much more serious prognostic signification than is usually supposed, not only as regards the frequency of the convulsions, but still more as to the probability of future mental and moral deterioration. It will, however, be necessary for our knowledge of the pathogenesis of epilepsy to be much further advanced than it is at present before its precise relationship to infantile convulsions can be determined.

James Burnet (Edinburgh).

Pathology.

Cytodiagnosis in tubercular children; comparison of the blood with serum from blisters (‘*La Pediat.*,’ *June*, 1906, *p.* 401).—**C. M. Greco** publishes his researches on this subject made in the Children's Clinic at Palermo. He reviews the work done by previous investigators, and describes his own technique. The vesicant used was Erba's, 4 cm. square, the subclavicular region was chosen, the duration of application eight to twelve hours. The conclusions arrived at were as follows: (1) The percentage of eosinophile cells in the blood of tubercular children, either before or during the action of the blister, as also in the serum of the blister, is in inverse proportion not only to the intensity of the infection but also to the resistance of the organism and the duration of application of the blister. (2) In children who are the subject of tuberculosis of the bones and joints, if they are free from fever and well-nourished, the relation between polynucleated eosinophiles and neutrophiles of the blood and of the fluid of the blister is much the same as in healthy children. (3) Polynucleated neutrophiles and eosinophiles are always in inverse relation between themselves with regard to the tubercular infection as if showing the compensating power of the hæmatopoietic organs, but especially of the bone marrow, which responds with an excessive production of polynucleated neutrophiles when the eosinophiles are diminished owing to the severity of the infection. (4) During the period of amelioration in a tubular infection the percentage of eosinophiles is greater than at the commencement. The reverse is the case with the polynuclear neutrophiles. (5) The cells of the blister are evidently of epidermic origin, being in larger quantity in the fluid extracted after the destruction of the bleb than in that drawn off by aspiration with a Pravaz syringe. (6) The experiment by the blister has no diagnostic value in tuberculosis in infants, but is merely prognostic in the sense that it indicates the grade of resistance of the organism, but it can be more usefully substituted by examination of the blood itself, especially in regard to the eosinophile elements. (7) Eosinophile cells are found in the blister liquid owing to positive chemiotoxic action of the products of destruction of the epidermic cells; they are diminished in the blood during the action of the blister by the paralysing action that cantharides exerts on the activity of the bone marrow. VINCENT DICKINSON.

The ætiology of infantile paralysis (‘*Clin. Journ.*,’ *July* 25, 1906.) —**Still** upholds the infective origin of infantile paralysis, though no bacteriological proof has as yet been adduced. He bases his belief on the following grounds: (1) The age incidence. The disease occurs, as a rule, within the first three years of life, a period during which the nervous system is liable to infective diseases, as is evidenced by the occurrence of posterior basic or cerebro-spinal and tubercular meningitis at that time. (2) The seasonal incidence. Most cases arise between the beginning of June and the end of September, though it is possible that light, temperature, and barometric pressure may influence the seasonal incidence apart from any infective agent. (3) The occurrence of epidemics, though cases occurring in this way sometimes differ from those arising sporadically. The death rate is liable to be high. Signs of cerebro-spinal meningitis are at times present, and *complete* recovery is not uncommon in such cases. (4) The relation to specific fevers. Infantile paralysis may occur during or immediately after a specific fever, and the tendency for one such disease to follow another in childhood is well known. Typhoid fever and possibly other acute illnesses, however, may favour thrombosis of the vessels, and this lesion together with scattered hæmorrhages and exudation of small cells in the anterior portions of the grey matter were found by Batten in a case which died thirteen days after the onset. The relation of the disease to specific fevers may, therefore, on the other hand, support the idea of a primary thrombosis, which is further favoured by those cases in which traumatism seems to be a determining factor, though it must be admitted that injury may act by lowering the resistance to an infective agent. The occurrence of some vascular lesion, obstruction or hæmorrhage again is further suggested by those cases in which paralysis comes on with a sudden, perhaps instantaneous, onset, as when a child is running across a room, or wakes from sleep paralysed, having been put to bed apparently healthy. The cause of the disease is at present unknown, but there is considerable evidence that it is an infective micro-organism. T. R. Whipham.

Post-anæsthetic acetonuria ('*Brit. Med. Journ.*,' *May* 19, 1906).—**L. Beesley** contributes an important paper on post-anæsthetic acetonuria in relation to the so-called delayed chloroform-poisoning. His observations are drawn entirely from children between the ages of four and twelve. He finds that after operation under a general anæsthetic acetone is produced, and may give rise to symptoms of varying severity according to the rate at which it is eliminated. Its excretion is found to depend on (1) the anæsthetic employed, (2) the condition of the patient as regards acetonuria prior to anæsthesia, and (3) idiosyncrasy. In healthy children who are excreting little acetone or none at all the post-anæsthetic acetone is rapidly excreted and produces no bad symptoms, but sepsis and constipation appear to delay elimination and permit symptoms of intoxication to arise. In children suffering from chronic acetonuria the elimination is usually effective and symptoms vary inversely with the amount of acetone previously excreted *per diem*. In most cases the excretion reaches its fastigium within twenty-four hours, but this may be delayed for reasons which cannot always be foreseen. The delay more frequently follows the use of chloroform than of ether, apparently on account of the injurious effects of chloroform on the cells of the kidneys and liver. Thirst, restlessness, and vomiting ensue which subside when elimination is well established. In serious cases the amount excreted is diminished from the beginning, intense thirst, vomiting becoming of a coffee-ground character, delirium and death ensuing. Where there is acute acetonuria prior to anæsthesia the administration of chloroform is very frequently fatal. Acute acetonuria develops in acute infective conditions such as suppurating appendicitis, and in such cases the anæsthetic appears to inhibit elimination by acting on the liver and kidneys and thus produce poisoning. He quotes statistics supporting this from the records of the Edinburgh Sick Children's Hospital. Thus of nineteen cases of acute septic appendicitis operated upon under chloroform fourteen died, while of twenty-four cases operated upon under ether only two died, neither of which gave evidence of acetone-poisoning. In all cases in which death has occurred fatty changes have been observed in the liver and kidneys. To counteract the acid intoxication set up the writer suggests the administration in large quantities of alkalies both before and after anæsthesia and quotes cases demonstrating the good results consequent upon their use. Paul Mathews.

Starch enzyme in the stools of breast-fed infants ('*Arch. of Pediat.*,' 1906, XXIII, *p.* 489).—**C. G. Kerley, H. N. Mason,** and **H. A. Craig** report the results of 161 tests for starch enzymes in the stools of twenty-two infants under two weeks of age, three infants in the second month and one in the third month of life. The test consisted in adding fæces to a solution of starch, 1 in 500, boiled for fifteen minutes. In every case sugar was found, proving that there was something in the fæces which converted the starch into maltose. von Jaksch has proved the presence of a starch-converting ferment in twenty-eight out of thirty cases, and Moro in thirty-eight out of forty. The converting capacity of the fæces for starch was one grain to about one twentieth grain of starch. Experiments were carried out showing that the conversion was not due to fæces bacteria. The writers concluded that the ferment came from the succus entericus or pancreatic juice. Zweifel and Korwin were unable to extract a diastasic ferment from infants under three weeks old. Moro, on the other hand, found a ferment in seven out of ten infants under three months old, two of whom had died at birth and one at fourteen days. The pancreas should be ground up with sand in a mortar and macerated in 15 per cent. alcohol or 40 per cent. glycerine. Meconium stools contain the ferment.

EDMUND CAUTLEY.

Note on presence of Spirochæte pallida in a syphilitic fœtus ('*Brazil Medico,*' *August* 1, 1906).—**Magalhães** concludes the article the first part of which was abstracted in No. 11, vol. iii, p. 517. He ascribes his failure with the Levaditi-Manouélian staining process to the fœtus having been left in alcohol for more than a month before it was examined. In addition to the organs mentioned in the first paper, the following were examined: *Heart:* Organisms present in the myocardium. *Diaphragm:* A small number found in the muscular tissue, more abundant in the fibrous tissue. *Aorta:* Abundant in the three coats of a small portion of abdominal aorta removed for examination. *Bladder:* A number of the spirochætæ were found in all the coats of this organ. *Uterus:* This organ had a larger number of the spirochætæ than any other; they were present in the muscular tissue, the mucous membrane, the periarterial tissues. *Fallopian tubes:* Present. *Ovary:* Fairly numerous. *Small intestine:* Abundant in all the coats. *Thigh muscles:* Present. *Tongue:* Few present. *Skin:* Found in pieces of skin removed from the thigh and dorsal regions. M. D. EDER.

Enlarged veins in children ('*Lancet,*' *October*, 20, 1906).—**A. G. Gibson** states that in many cases of wasting occurring in children we find venules showing on the chest. These are small ramifications flush with the surface of the skin. In front they tend to converge towards the upper part of the sternum, but behind they usually show a stellate arrangement. In some of the most marked cases large veins can be seen as far out as the deltoid region. As a rule no veins are seen below the chest, but Gibson says that he has seen cases in which there was no abdominal disease showing such venules about the groin. The jugulars can almost always be seen either as blue streaks or distinctly dilated; one or both sides may be affected. Veins can frequently be seen also under the chin, at the temples, and very occasionally on the forehead. He describes in all fourteen cases showing enlargement of the veins. Fifty per cent. are males and 50 per cent. females. The ages range from four to ten years. In 57 per cent. there was a history of tuberculosis in the family. Visible veins on the chest were present in 92 per cent. of the cases, downy hair in 42 per cent. A Eustace Smith retraction murmur was heard in 71 per cent., and palpable glands in the neck could be detected in 64 per cent. Only in one case was it possible to observe the conditions under which the enlarged veins were produced, and in this case only the left jugular vein was dilated. A dissection of the anterior mediastinum showed a ring of fleshy enlarged glands encircling the left innominate vein attached below to the thymus. Microscopic sections of one of the glands revealed the presence of giant-cell systems and a few tubercle bacilli. Thus it would appear that in this case at least it becomes highly probable that tuberculosis of the mediastinal glands was the cause of enlargement of the veins. JAMES BURNET.

Therapeutics.

Infant feeding ('*Pediatrics*,' 1906, *p.* 418).—**John Zahozsky** regards the quotient of energy, estimated in calories, as a valuable means of control in the feeding of infants. In calculating the number of calories in the food, 1 gram. each of proteid and sugar equals 4·1 calories, and 1 gram. of fat yields 9·3 calories. Heubner has given the name "energy-quotient" to the number obtained by dividing the number of daily calories by the number of kilograms in the body weight. This number, therefore, indicates the number of calories given to each 100 gram. of weight. Heubner has estimated that the proper number should be about 100. This should be regarded as the normal average (E.Q.) The "energy-quotient" gradually diminishes as the babe gets older. The minimum number of calories for young infants has been calculated as 70, but a few have gained weight on an "energy-quotient" as low as 55. In applying this method weigh the infant, calculate the total number of calories in the food for twenty-four hours and divide by the number of kilos. The result shows whether the child is having enough food. It is necessary to know the composition of the milk used. Human milk contains 21 calories per oz. Cereal decoctions and albumen-water contain 1 to 2 calories to the ounce. Hence, in using these latter fluids, sugar must be added, so that the percentage of solids is about 7 per cent. and the value in calories about 10 to the ounce. Calculation of the energy-quotient is a valuable means of controlling the amount of food for premature infants. It is also useful in cases of wasting, for if the child is receiving more than 100 calories per kilo. of body weight the wasting is not due to deficiency in the quantity of the food.

EDMUND CAUTLEY.

Whey proteids ('*Arch. of Pediat.*,' 1906, XXIII, p. 504).—**C. F. Judson** discusses the food value of whey proteids. Whey contains about 0·33 per cent. of fat, 4·5 per cent. of sugar, and salts, and does not readily go sour. Grulee ('Arch. of Pediat.,' 1904) gives 0·5013 per cent. (0·2928—0·6616 per cent.) as the average amount of albumin found in twenty-four samples of whey, including therein all the soluble proteids. Judson states that this low percentage suggests error in analysis. The nitrogenous constituents of cow's milk are casein, lactalbumin, lacto-globulin, Storch's muco-proteid, and galactase (a ferment discovered by Babcock and Russell). Casein and lactalbumin alone need be considered, for the others occur in such small quantities. The whey proteids are lactalbumin, lacto-globulin, and a soluble proteid similar to albumin, split off from the casein by the action of rennet ferment (Leffmann). This soluble proteid is an important constituent. The lactalbumin of milk is present in whey. It varies in amount in milk. H. Droop Richmond gives 0·40 as the average percentage of 200,000 analyses. German analysts give 0·30—0·50 per cent., van Slyke, 0·70 per cent. Recent reliable analyses of the nitrogen content of whey are 0·85 (König), 1·00 (Fleischmann; Rupp, White and Ladd; Winconsin Agricultural Experimental Station), 0·92 (Wieth). Analyses by Judson confirm these results, and 1·00 per cent. may be accepted as the total nitrogen content of ordinary whey. Some of this is in the form of extractions. When this is subtracted the average proteid content is 0·85—0·90 per cent., in the form of whey-albumin and whey-casein (whey proteid). The lactalbumin probably represents more than half the proteid content. Higher percentages of proteid are obtained when the whey is made from skimmed milk.

EDMUND CAUTLEY.

The treatment of whooping-cough by chloroform (*'La Presse Méd.,'* 1906, *No.* 65, *p.* 518).—**H. de Rothschild**, having occasion to reduce a congenital dislocation of the hip in a child the subject of whooping-cough, was obliged to have recourse to prolonged and complete chloroform anæsthesia, and was astonished to find that the spasmodic attacks did not recur; the child, in fact, was cured of its whooping-cough. To eliminate a possible element of chance, he subjected nine children similarly attacked to chloroform narcosis; in two cases there was complete and definite disappearance of the attacks; in three others disappearance of vomiting and cyanosis and a notable diminution in the number and intensity of the attacks in the forty-eight hours following the narcosis and their disappearance in three days; in four cases the same favourable modifications were manifest, but only at the end of fifteen days; in one case he had to have recourse to a second anæsthesia. He considers he has found a therapeutic measure of great utility, for even if it does not instantaneously cure whooping-cough, it reduces the symptoms to a minimum. The suppression of the vomiting, the recovery of appetite and of sleep, are advantageous in checking debility, which prepares the soil for the future evolution of tuberculosis, of which whooping-cough is the antecedent as frequently as scarlatina is of nephritis and rheumatism of heart disease. As to its method of action it is probable that in whooping-cough complete anæsthesia suppresses the sensation with the irritability which starts the attack, and definitely arrests it, much in the same way as cauterisation of the nasal mucous membrane arrests hay asthma. But it is also highly probable that the chloroform plays an important part as an antiseptic, that its passage through and elimination by the pulmonary apparatus must have direct influence on the specific microbes of the disease.

VINCENT DICKINSON.

The use of sodium citrate as a modifier of cow's milk from a chemical and physical point of view (Amer. Med. Assoc., June 6, 1906; *'Medical Record,' July* 21, *p.* 118).—**Joseph W. England** read a paper on the subject of sodium citrate which was first recommended by Wright in 1893 for the treatment of proteid indigestion. After a long series of experiments the author had come to the following conclusions. The salt had no decomposing action on calcium casein in the cold, but that it exerted an important physical influence upon the casein of milk; that when the citrated milk was brought in contact with the gastric juice the sodium citrate was decomposed into sodium chloride and free citric acid, and that sodium chloride had more important physical, chemical, and therapeutic properties in the digestion of cow's milk than had hitherto been believed.

ERNEST JONES.

The open-air treatment of pneumonia (Amer. Med. Assoc., June 6, 1906; *'Medical Record,' July* 21, *p.* 119).—**W. P. Northrup** in a paper said that for more than eleven years he had been treating pneumonia cases in this way. At the Presbyterian Hospital in New York it had been the practice of late to treat the cases of pneumonia in children by placing them on the roof, and the authorities there were so convinced of the great value of the treatment that a roof garden had been built for the children's ward, and a colossal one was being built on the main roof of the medical side of the hospital. **Edwin Graham**, of Philadelphia, narrated his experience in the open-air treatment of fifty children under one year of age. The results had been surprisingly gratifying. ERNEST JONES.

Treatment of chorea (‘*Thèse de Paris,*’ 1906; ‘*Rev. Mens. des Mal. de l'Enf.,*’ *June,* 1906, *p.* 287).—**A. Bruel** deals with this question principally from the aspect of isolation and rest in bed. He establishes four degrees in the treatment, according to the severity of the case. (1) The child has to go to bed earlier and get up later so as to spend fourteen hours in bed. (2) Here the child, in addition to these fourteen hours, goes to bed for at least two hours after lunch. (3) Absolute rest in bed for a fortnight; meals are taken there and the relatives allowed to visit only for a few minutes once a day. (4) The same as the last with the addition of complete obscurity save at meal-time. Blue light may be employed. Return to ordinary hours should be very gradual even if all movements have ceased.

Ernest Jones.

Antidysenteric serotherapy in children (‘*Rev. Mens. des Mal. de l'Enf.,*’ *June,* 1906, *p.* 241, *July, p.* 296).—**B. Auché** and **R. Compana** contribute an article of forty pages on this important subject. They first review the literature. The Rockefeller Institute research on infantile dysentery obtained less favourable results with Shiga's serum than Shiga, Kruse, or others had had in cases of tropical dysentery, but this was largely owing to the acuteness of the cases, which often were not seen until they were moribund. The present writers treated nineteen cases recently and report them in full. The commonest age was between two and three years. The clinical type varied considerably. Shiga's bacillus was isolated from the stools in nine cases, Flexner's bacillus in five, Strong's in two and no specific organism in the remaining three. Two strains of anti-Shiga serum were employed, the Dopter and the Blumenthal. The dose is 10 c.cm. and this may be repeated twice or thrice. Of the nineteen patients only one died and he had broncho-pneumonia secondary to whooping cough. This was very encouraging, as many of the cases were very severe. The character of the stools, the abdominal pain and the general state of the patient all showed evident improvement after twenty-four to forty-eight hours; the duration of the illness was also less than the average. Ernest Jones.

Otology, Laryngology and Rhinology.

Bleeding after removal of adenoids (‘*Laryngoscope,*’ *January,* 1906). —**Homer Dupuy** believes that this is neither so rare nor so insignificant as is generally believed. He has collected a considerable number of cases from the literature; in nine death occurred rapidly. The commonest cause of severe hæmorrhage is hæmophilia, which is always thought of *after* the operation; other causes are lymphadenoma, exophthalmic goitre, and the various forms of anæmia. Bleeding occurs more often after puberty when fibrosis of the adenoid tissue has taken place. Dupuy has found the ascending pharyngeal artery on the posterior wall of the pharynx, and Schmiegelow had a case which proved fatal from division of the internal carotid artery, which was pushed inwards by an enlarged gland. For treatment the author recommends a spray of adrenalin and hydrogen peroxide and, in severe cases, plugging of the naso-pharynx through the mouth. Inquiries as to hæmophilia should always be made *before* the operation.

Harold Barwell.

Foreign body impacted in the larynx for five months—removal (‘*Lyon Méd.,*’ *February* 4, 1906).—**Garel** reports this case, which is of some interest. A girl, aged 2½ years, had a history of an attack of suffocation after swallowing some salt five months before; since then she had suffered from frequent attacks of severe glottic spasm and was aphonic. With the Roentgen rays a very dark vertical shadow was detected at the level of the larynx. Under anæsthesia with ethyl chloride Killian's tube-speculum was passed, and a grey granulation and a black mass were seen between the cords; this was removed with forceps and proved to be the copper hook of an hook and eye. The author emphasises the fact that foreign bodies in the larynx are often overlooked, and insists on the great advantages of Killian's method in these cases. HAROLD BARWELL.

Case of congenital syphilis of the pharynx and larynx (*'Lyon Méd.,' March* 25, 1906).—Cases of severe congenital syphilitic lesions localised to this region are by no means common. **Garel** reports one in a girl aged nine years. The father had syphilis two years before marriage. The patient suffered from intense dysphagia and marked stenosis; there was ulceration of the pharynx and fauces and infiltration of the entire upper aperture of the larynx. Inunctions of mercury were given for five days, and then potassium iodide, beginning with 30 grains a day and increasing to 45 grains. The ulcers healed in a fortnight. The author believes that iodides are more effectual than mercury for these cases, but when there is severe stenosis he prefers to give mercury first on account of the risk of asphyxia from the œdema due to iodides.

HAROLD BARWELL.

Surgery.

Joint lesions in hæmophilia (*'Journ. Amer. Med. Assoc.,' June,* 1906).—**Ryerson** divides the affection into three stages. In the first free fluid blood simply is present in the joint, and the synovial membrane undergoes a yellowish or brownish discoloration. The blood is absorbed and the joint resumes its normal condition. The second stage is where repeated hæmorrhages have given rise to definite thickening and darkening of the capsule, while the third is the stage of adhesions, resulting in more or less complete ankylosis, usually in a condition of flexion, after the fluid has been absorbed. The treatment of the first stage should be directed towards the absorption of the effused blood, aspiration with a fine needle, the injection of adrenalin, and the application of pressure by a bandage. In the later stages extension or the forcible straightening of the limb should be employed. Any cutting operations should be studiously avoided.

T. R. WHIPHAM.

Aneurysm of the carotid artery in a child aged 12 years (*'Indian Med. Gaz.,' August,* 1906).—**M. H. Thornely** reports the case of a Mohammedan girl of about 12 years of age, who had a fusiform swelling in the right side of the neck on a level with the thyroid gland. The swelling, which was said to have arisen spontaneously five years before, had slowly enlarged and caused giddiness and stiffness of the neck. There was no history of traumatism nor signs of syphilis. Locally there was a pulsating swelling about the size of a hen's egg beneath the sterno-mastoid, corresponding in position with the upper part of the carotid artery, and a loud systolic bruit could be heard over it. The right temporal pulse was smaller than the left. The common carotid was tied about half an inch below the aneurysm, after which the swelling gradually diminished, till in about three weeks it was one third the former size and no longer gave rise to a bruit. The unusually early age of the patient and the absence of any discoverable cause make the case remarkable. T. R. WHIPHAM.

Coin in the œsophagus removed by direct œsophagoscopy (*'El Siglo Médico,' September* 15, 1906).—**Tapia** reports the fifth case in which he has employed this procedure, making the 152nd time in which it has been used for the extraction of foreign bodies. A child, aged 2½ years, swallowed a coin on June 14. As she could take no solid food and the swallowing of liquids was painful, she was taken to the hospital on June 21. A skiagram showed that the coin was arrested at the thoracic opening, concealing the seventh cervical, the first dorsal, and part of the second dorsal vertebræ. Under chloroform, a tube 20 cm. long with a diameter of 9 mm. was introduced. At 15 cm. from the teeth the tube was arrested; inspection showed that a fold of the posterior aspect of the mucous membrane was jammed between the tube and the coin, whilst in front and laterally the tissues were intensely inflamed and swollen. After some manipulation the fold was passed, and the upper border of the coin coming into view, it was easily extracted. The writer recommends this method of direct inspection in all cases; he is strongly opposed to operating in the dark by means of coin-catchers and similar instruments. M. D. EDER.

Double coxalgia in the child (*'Journ. de Méd. de Paris,' October*, 1906).—**J. Calvé** in a *résumé* of cases from the hospital at Berck-sur-Mer considers the double coxalgias are 6 per cent of the whole. They are more common in males from twelve to fifteen years of age. When the process is arrested the cases group themselves into six varieties: (1) Ankylosis of both hips with equal length of limbs. Walking is possible, standing difficult, defæcation and genito-urinary functions much embarrassed, especially in girls. (2) Bilateral dislocation with mobility of both hip-joints and about equal length of limbs. Walking is very ungraceful, often painful. Sitting easy. (3) Bilateral dislocation with flexion and adduction of both thighs. Walking difficult, often impossible (4) Bilateral ankylosis with adduction of thighs and scissor-leg deformity. (5) Asymmetry of the two limbs; walking very painful. (6) Ankylosis of the hip-joints with rotation outwards. Very rare; considerable infirmity. The vertebral column shows various deformities of compensation. The knee is often affected, genu valgum, varum or recurvatum. There is abnormal laxity of the ligaments of the feet. Many of these troubles may be prevented by suitable treatment.
J. PORTER PARKINSON.

Dislocation of the hip-joint following a fracture of the cotyloid margin in a child aged 13 years (*'Journ. de Méd. de Bordeaux,' August*, 1906).—**W. Dubreuilh** relates that this child came to him for a slight lameness which began a year ago and was attended with pain in the hip and knee, which lasted a month and returned six months later. On walking it was noticed that the femur was fixed on the pelvis. The limb was shortened 1½ cm. The trochanter projected slightly. There was much pain on trying flexion and adduction, which were much limited in extent. There was a compensatory lumbar curve of the spine. The writer discusses the diagnosis from coxalgia, coxa vara, arthritis, and congenital or traumatic dislocation. of the hip. The X rays showed an oblique fracture of the upper part of the edge of the cotyloid cavity, detaching a triangular fragment of bone.

The head of the femur was somewhat flattened. There was no history of any traumatism, though it is probably due to some such cause.

J. Porter Parkinson.

Osteo-sarcomata in children (*'Journ. de Méd. de Bordeaux,' July* 29, 1906).—**Venot** and **Rabère** showed two children before the Medical Society of Bordeaux. The first was a boy, aged 10 years, who for fourteen months had had a swelling of the right calf. It was 47 centimetres in circumference, hard, resistant, immobile, and covered with dilated veins. There was a second smaller tumour just above the internal condyle of the femur, about the size of a tangerine orange, of the same character as the first. The second was a girl, aged 8 years, who had a tumour of the inferior maxilla; it was enlarged on the right side by a hard, resistant mass, which occupied also part of the floor of the mouth, and was covered by healthy mucous membrane. Its duration could not be ascertained.

J. Porter Parkinson.

The rubber teat and deformities of the jaws (*'Brit. Med. Journ.,' October* 20, 1906).—**Tom F. Pedley** in an extremely interesting article on this subject, which should certainly be read by all those having the care of young children, points out the damage done to children by the use of the "baby comforter." It is pointed out that the child feeding from its mother's breast does not suck the milk out of the breast, but squeezes it out by the pressure of its jaws. In fact, the infant drinks rather than sucks. With the rubber teat, on the other hand, the child sucks, which has a quite different effect upon the development of the child's mouth. Mr. Pedley points out with overwhelming force that the habit of mouth-breathing and the deformities of the teeth and jaws, which those who practise among children are so constantly seeing, are in large measure due to the artificial feeding of infants with bottles and rubber teats and the use of the dummy teat, or "comforter." Children who cannot be brought up at the breast should be spoon-fed and the "comforter" should be banished from the babies' ken.

P. Lockhart Mummery.

Symptomatology of fractures of the skull in children (*'Thèse de Paris,'* 1905; *'Rev. Mens. des Mal. de l'Enf.,' June,* 1906).—**Ernest Gasne.**—This thesis is concerned solely with the features of fracture of the skull which are peculiar to children. It is founded upon a study of thirty-nine cases. Almost always the injury was due to a fall from a height, usually out of a window, and consequently the great majority of the cases occurred in the summer months. Out of the thirty-nine cases only six occurred in the winter. The author thinks early and considerable rises of temperature more common but less serious in prognosis in children than in adults. He calls attention to the frequency in children of very extensive extravasations of blood under the scalp, and to the accompanying swelling of the face and especially of the eyelids. This swelling may persist until long after cerebral symptoms have disappeared. Fractures of the petrous bone with bleeding from the ear are uncommon, but fractures of the frontal region leading to epistaxis and orbital extravasation are frequent. As far as his observations go the author is led to believe that fractures of the base are less serious in children than in adults. Cerebral symptoms following soon after the accident are more likely to disappear in the child than in the adult.

Wilfred Trotter.

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HÆMATURIA IN INFANTS AND YOUNG CHILDREN.

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Hæmaturia differs from hæmoglobinuria by the presence of red corpuscles in the urine as well as blood-pigment. The amount in the urine may vary greatly, from only a few red corpuscles which require the microscope for their detection to urine which appears to consist of almost pure blood, so the appearance of the urine is not always a reliable guide. In urines, especially those which are alkaline, the red corpuscles tend to break up on standing, hence it is important to examine a fresh specimen if any doubt exists as to the presence of red corpuscles.

The usual clinical tests for blood depend on the pigment it contains. The ordinary guaiacum test, if done with fresh materials, is a very delicate one, but the presence of iodides, pus, saliva, or milk in the urine will give a very similar reaction. Heller's caustic potash test is also given by the urine of patients taking senna, rhubarb, santonin, or chrysarobin, which drugs are frequently administered to children; hence the microscope is without doubt the safest method to employ. After eating certain sweets the urine may have a bright pink colour, but as it also has a marked fluorescence it cannot be mistaken for blood.

Carboluria may resemble urine smoky from blood, but does not give the guaiacum test. Having decided that blood is really present in the urine, it has to be discovered from what part of the urinary tract it comes. The general symptoms often give one a clue to this; the more severe hæmorrhages come usually from the kidney, while the presence of blood-casts from the renal tubules are, of course, distinctive.

The age of the patient may often give one a clue to the cause of the hæmaturia; for example, in an infant under a year old the cause is generally one of the following three—infantile scurvy, renal sarcoma, or uric acid crystals. These latter may occur in the shape of deposits in the renal tubules and in the pelvis of the kidney, and the hæmaturia is occasionally accompanied by pain and priapism apparently of the nature of renal colic.

Sometimes hæmaturia may be the only obvious sign of infantile scurvy, though on closer examination other signs, such as tenderness of limbs, etc., may be discovered. The following instance from my case-book illustrates this:

Edward B—, aged 11½ months, was sent to me by his doctor, who, on account of the appearance of blood in the urine, had diagnosed nephritis. With the child he sent a detailed account of the examination of the urine as follows: "There is a large deposit of blood-corpuscles; not more albumin, however, than can be accounted for by the blood present. There are a few hyaline and blood-casts. No crystals."

The child had been ailing for two months, being fretful, and screaming on being handled or dressed. The water had been noticed to be "thick" for the same period. There had been no gastro-intestinal symptoms. The infant showed marked evidence of rickets. There were no teeth erupted. The head was squarish, with projecting bones and an unduly large fontanelle. The ends of the ribs and long bones were markedly enlarged. The limbs were generally tender, but there were no definite swellings on them. The feet seemed puffy, but did not pit on pressure. The heart and lungs were normal; the abdomen was large and tympanitic, with a palpable spleen and a depressed liver. The general nutrition seemed good, but the child was markedly anæmic, the muscles flabby, and the articulations unduly mobile. The child had been brought up since birth on condensed milk and a well-known patent food. A diagnosis of "infantile scurvy" was made, and fresh cow's milk ordered with raw meat juice and fruit juice, with the result that the blood disappeared from the urine within a week and the further improvement was rapid and complete.

Another cause of hæmaturia in early life may be congenital renal tumour. Of these cases about one half produce symptoms before the patient has reached two years of age.

The amount of blood passed with the urine may be large, but is usually small, and sometimes can only be detected on microscopic examination. The symptom which almost always attracts notice is the large and increasing size of the abdomen, which soon becomes marked with distended veins as the circulatory obstruction within increases. Constitutional symptoms are absent for a remarkably long period, but eventually wasting comes on and pressure effects are noted, such as dyspnœa, vomiting, constipation, and such like. As a rule, the diagnosis of these cases presents no difficulty, but some abdominal tumours may resemble closely a renal tumour, and, as hæmaturia may be absent in the latter, the distinction may be difficult, if not impossible. In a very young infant it is possible sometimes to palpate the tumour with a finger *per rectum*, and this helps greatly in the differentiation. For example: an infant aged 3 weeks, was admitted into the wards of the North-Eastern Hospital for Children with a swelling of the abdomen, which had existed since birth and was rapidly increasing. The abdomen was much enlarged, especially in the right hypochondriac region, in which could be felt a smooth, roundish, solid lump, moderately moveable, and extending downwards below the level of the umbilicus and across beyond the median line of the abdomen. It was dull on percussion. It was therefore a tumour probably connected with the liver or kidney, but on abdominal examination it was impossible to say which. On rectal examination, however, I was able to feel the kidney lying quite free from the tumour, which was in front of it and not connected with it, as the finger could be passed freely between the two. The diagnosis of a liver tumour was made, and a sarcoma of that organ was found on abdominal section.

The following illustrate the causes of hæmaturia occurring in later childhood.

Hæmaturia is one of the most frequent of the visceral bleedings of Purpura hæmorrhagica. The amount of blood varies with the severity of the disease. The cause is not often in doubt, as in such cases the bleedings under the skin and from the mucous membranes are such as are only to be seen in cases of scurvy, or in the hæmorrhagic forms of the various acute specific fevers, or in the rare condition known as Henoch's purpura. Scurvy in children is exceedingly rare in this country after the fifteenth month, so after that age it may be almost disregarded as a cause of hæmaturia, but in the rare cases in which it occurs the spongy gums and the history of the diet will help in the diagnosis and the result of dietetic treatment will confirm it.

In acute specific fevers hæmorrhagic types are sometimes seen in measles, diphtheria, influenza etc. In hæmophilia bleeding from the kidneys may follow a slight traumatism, the sudden appearance of the blood without other symptoms, or accompanied by subcutaneous bruising or hæmorrhage into the joints, and the previous history of the patient or other members of the family, will readily establish the diagnosis.

Hæmaturia to a greater or lesser amount is a common symptom of acute nephritis, especially of that form which arises as a sequel of scarlet fever, or occasionally of influenza. Here the general symptoms and the œdema usually make the diagnosis simple enough, while in the urine, besides the blood, there is a considerable deposit of casts, and albumin is found in larger quantity than can be accounted for by the blood present.

Some drugs may produce hæmaturia either from being impure or from being given in too large doses.

Chlorate of potash, which is so frequently given for stomatitis and pharyngitis, sometimes causes it; for this reason I have always made it a routine practice to tell the mother to cease its administration immediately the condition of the mucous membrane has improved; the result being that I have never seen this type of hæmaturia.

Sometimes patients with rheumatism who are being treated with salicylate of soda begin to pass blood in the urine; this is generally stated to be due to some impurity of the drug. I have seen two examples of this, and on the cessation of the drug the blood disappeared in a few days, and did not recur when salicylate prepared from oil of wintergreen was substituted for the previous preparation.

Hæmaturia has sometimes followed the eating of rhubarb or strawberries. In these cases the blood has been accompanied by large numbers of octohedral and dumb-bell crystals of calcium oxalate. Fortunately this form of hæmaturia is not serious, as it stops after a day or two of abstention from the cause; still, it is not very uncommon, and indicates that these articles of diet are not as salutary as is sometimes thought, though, apparently, no serious disease of the kidney follows. Turpentine and cantharides may be causes of hæmaturia, but these drugs are rarely administered to children.

An obscure variety of hæmaturia was described by Dr. L. Guthrie under the name of "idiopathic," or congenital, hereditary, or family hæmaturia, in which twelve members of a family had hæmaturia persisting for many years, occasionally ceasing, but recurring every now and then. The children were otherwise healthy, and the pathology of the condition is unknown.

Infarcts in the kidney during malignant endocarditis may be a cause of hæmaturia, but in this disease the general condition of the patient explains the cause.

Renal calculi in the kidney, pelvis, or bladder may cause hæmaturia ; and when in the kidney or pelvis the accompanying symptoms of pain or colic, and occasionally the Röntgen rays, may facilitate the diagnosis ; while in the bladder a calculus may often be felt by rectal palpation. Other surgical causes are papillomata and other vascular growths in the lower urinary passages.

Obscure forms of hæmaturia sometimes occur which cannot be referred to any of the causes already given, and some of these cases are by some writers thought to have a connection with rheumatism, as they are sometimes preceded by acute tonsillitis. The hæmaturia is accompanied by lumbar pain, but there is no fever and no œdema. The symptoms all disappear after a few days, when the urine becomes normal. Apparently the symptoms are due to acute congestion of the kidney. In other cases hæmaturia has occurred as an isolated symptom, and some months later tubercle bacilli have been found in the urine, so it may be an early sign of tuberculosis of these organs, and it received the name of renal hæmoptysis.

More purely surgical causes of hæmaturia are stone and vascular growths in the urinary passages.

The treatment of hæmaturia is usually that of its causation, and so varies considerably. In that due to scurvy in infants it is remarkable how a diet of fresh milk, potato *purée*, fruit juice, etc., will quickly remove the blood.

The hæmaturia of infants due to uric acid concretions usually disappears spontaneously, owing, perhaps, to the constant flushing of the kidneys owing to the fluid diet.

In Purpura hæmorrhagica the hæmaturia is only one of many bleedings, and is not treated separately, but in this connection I may perhaps allude to the remarkable results published by Dr. Soltau Fenwick and myself in the 'Transactions of the Royal Medical and Chirurgical Society, 1906.' Our cases were chiefly in young adults, and owing to lack of material we have only been able to treat one child, but the improvement was equally rapid and permanent, so that it is very likely that other cases of this disease will be equally benefited by the rectal injection of polyvalent antistreptococcus serum. Dr. T. H. Bryant related before the Medical Society of London, in 1905, a case of septic hæmaturia which cleared up after rectal injections of antistreptococcus serum had been administered.

In hæmophilic hæmaturia I am not convinced of the efficacy of any special drug, my cases having cleared up apparently from rest in bed alone. Calcium chloride is advocated by some, but in the cases under my observation it does not seem to have had any result. Some cases have cleared up rapidly after the administration of ergot. Adrenalin seems to be of value in others.

In the hæmaturia which may follow scarlet fever or influenza I can testify to the value of cupping, which was shown in the following case:

A little girl, aged 9 years, about three weeks after a short pyrexial illness—almost certainly scarlet fever—began to pass blood in the urine. She was treated by her father, who was a medical man, but in spite of this the hæmaturia increased, and a week later he called me to see the child. She was languid and anæmic, with a normal temperature. There was no œdema and no vomiting or other renal symptoms. The urine was bright red from blood, which, on standing, deposited nearly half its bulk of red blood-corpuscles. And after standing the boiled urine deposited half its bulk of albumin. There were a few blood and epithelial casts present. As there was apparently acute congestion of the kidney present and the usual remedies had not succeeded, I dry-cupped the child over each kidney, with the result that next day the amount of blood had very much diminished, and four days later the microscope failed to detect any red blood-corpuscles. The albumin cleared up completely within a fortnight. In the hæmaturia of more chronic cases I have not obtained equally good results, but in very early cases I think dry-cupping is not done as frequently as is desirable. The blood-vessels of the skin over the region of the kidneys anastomose with the renal vessels, so a direct derivative effect on those organs is produced, as well as, perhaps, an indirect effect through the nervous system.

In all cases of hæmaturia milk diet and rest in bed are imperative.

ALCOHOLIC CIRRHOSIS OF THE LIVER IN CHILDREN.

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(*Continued from page* 14.)

The *extension of a tubercular process* from the general peritoneum to that covering the liver makes but little difference to the clinical picture already present, and the diagnosis between that condition and true cirrhosis has been dealt with in a previous section of this article. It is interesting to note that any cirrhosis that may be produced in this way is, even in tubercular cases, only rarely of a tubercular nature itself. This has been clearly shown by Hutinel (160) and Pitt (161). The non-tubercular cirrhosis present in cases of tubercular peritonitis reminds one of the non-tubercular cirrhosis that occurs in cases of tubercular pericarditis, forming a well-defined affection that was given the name by Hutinel of "cardio-tubercular cirrhosis of the liver." This condition was described first by Hayem et Tissier (162). Perhaps the fullest account of it is that given by Soullard (163), though many of the French writers deal with it at length.

If we now consider the hepatic cirrhosis that is associated with *adherent pericardium*, the first thing that impresses itself is the continuous gradation of cases out of which some of the stages may be artificially selected as clinical types.

(*a*) At the one end of the scale is Pick's (164) pericarditic pseudo-cirrhosis, in which most of the changes are due to passive congestion and, hence, affected by treatment directed to the cardiac condition. Pick regards any thickening of the peritoneal capsule that may be present as accidental and not derived from the thickened pericardium by extension.

(*b*) Closely allied, however, to this is the group of cases in which the low form of inflammation present in a chronic progressive indurative mediastino-pericarditis extends directly to the upper surface of the liver. A good description of this condition was given by Hillier (165) so long ago as 1868. These cases form an important group clinically on account of the frequency of their occurrence and the difficulty of their diagnosis. The difficulty of diagnosis of adherent pericardium in general is notorious. In a study of fifty-nine autopsies of adherent pericardium Professor Douglas Head (166) remarks that the lesion was diagnosed in only eleven. Out of sixty cases of calcification of the pericardium that I (167) collected in 1901 a diagnosis of pericardial disease was not arrived at in a single instance, so that probably in this group the signs of adherent pericardium are even harder to recognise than usual. The difficulty of diagnosis is unquestionably due more to the specific signs of the affection not being looked for than to any intrinsic difficulty in their recognition. An excellent summary of them is given by Professor Head in the article just referred to. In the fifty-nine cases he analysed the clinical picture was purely one of cirrhosis of the liver in no less than eleven.

(*c*) When the process mentioned above progresses still further so that the peritoneum of the upper part of the abdomen is widely affected, and perhaps the pleura as well, we have the condition of multiple serositis or chronic polyrrhomenitis, often called Concato's disease.

Before dealing with the question of cirrhosis of portal origin it will be profitable first to review from a clinical standpoint all the above-mentioned varieties of cirrhosis as met with in children. Looked at thus, they may be said to fall into three groups :

(1) Cases in which the evidences of hepatic cirrhosis are inconspicuous as contrasted with the other disease present.

Enlargement of the liver is the most prominent symptom, though it is often accompanied by slighter enlargement of the spleen as well.

Here may be placed the cases of congenital syphilis, of cardiac congestion, and of acquired simple obstruction to the bile-ducts.

(2) Cases in which the symptoms are those of biliary obstruction combined with hepatic inadequacy.

Intense jaundice, great enlargement of liver and spleen, toxæmia, nervous symptoms progressing to a fatal termination, are the striking features.

This comprises the diseases grouped under the name "biliary cirrhosis" and includes Hanot's and allied types, the Hindoo cirrhosis, and the congenital obliteration of the bile-ducts.

(3) Cases in which the symptoms are those of portal obstruction.

Ascites, enlarged liver and spleen, dilated veins, showing an anastomosis of characteristic distribution, albuminuria, and later, œdema of the ankles (Corrigan's hepatic œdema) are the chief symptoms.

The capsular pseudo-cirrhoses comprise this group.

From consideration of the above facts it will be seen that the only group of the cirrhoses that clinically gives rise to serious difficulty in the diagnosis of true portal cirrhosis is the third one—*i.e.* the one in which there is the least actual cirrhosis present. The reason for this is that the effects of the lesion are concentrated in the production of portal obstruction, which is the most prominent effect of true portal cirrhosis.

The diagnosis between capsular pseudo-cirrhosis and true portal cirrhosis—*i. e.* the two causes of portal obstruction—is based on the following grounds. In the capsular group evidences of the cause, which in children is almost always either adherent pericardium or tubercular peritonitis, should be carefully sought for ; it is a capital mistake in any case of hepatic cirrhosis to omit an examination specially directed to determine the presence or absence of signs of adherent pericardium. The spleen is less enlarged in these cases. The ascites is of recurrent nature, as in Osler's (168) well-known case of a child who was tapped 121 times ; the fluid is of a higher specific gravity, is more turbid, and contains more albumin and a larger number of cells. In the true cirrhosis group, again, evidences of a cause, such as alcohol, should be sought for both in the history and in the other physical signs of alcoholism ; Quinquaud's sign * is here of great value. The spleen is more enlarged in these cases. The ascites rarely recurs more than once, as death takes place before this is possible ; the fluid has the opposite characteristics to those just mentioned. A most important point is to look for signs of other effects on the liver, such as those of duct obstruction and hepatic inadequacy, which rarely occur to any marked extent in the capsular cases.

Last of all we have to deal with the *portal group* itself and the question as to the importance of alcohol in this connection. On the experimental side an enormous amount of work has been done, the result of which has not on the whole been very illuminative. Straus and Blocq's (169) original experiments are well known. Their conclusions have been criticised on the grounds that the cirrhosis may have been due to toxins absorbed from the stomach as the result of ulceration produced by the stomach-tube employed. Most experimenters, such as Afanasieff (170), von Kahlden (171), Lafitte (172), Pohl (173), Sabourin (174), Scagliosi (175), and Strassman (176), have produced only acute hepatitis with perhaps parenchymatous necrosis and a little replacement fibrosis. De Rechter (177), however, has raised the objection that the doses used in many of these cases could lead only to necrotic lesions and death, being far in excess of the amount imbibed by the most debauched drunkard. He has carried out a striking series of experiments in dogs and rabbits, and though he avoided carefully the errors of technique committed by Straus and Blocq, he confirmed their conclusions to the full. Other workers also, notably Zénon Papier (178), in the case of rabbits and chickens have obtained similar results. Papier found that the kind of lesion varied with the strength of the alcohol used. On the whole, although the lesions in animals are rarely typical of the multilobular cirrhosis found in man, the experimental work does not seriously discountenance the view that alcohol plays an important part in the production of cirrhosis. It suggests, however, that there is probably a further factor necessary, which on clinical grounds one may assume to be the absorption of a toxin manufactured by the alcoholic gastritis. This is, of course, in accord with the modern view, enunciated by Kretz, that cirrhosis is always secondary to a parenchymatous affection, usually of a destructive nature. The work of MacCallum (179), and Pearce (180), strongly supports this. In this connection, and as favouring the view that cirrhosis is ultimately due to an elaborate poison rather than to a simple substance such as alcohol, we might note the fact that no experimental cirrhosis yet produced mimics human cirrhosis at all closely. This is so in spite of the numerous methods devised for experimentally producing the condition; Henkelom (181) describes nineteen ways, and Joannovics (182) several others. One of the most successful ways has proved the administration of alcohol together with various toxins, a method first employed by Ramond (183). The most marked cirrhosis yet seen in experimental work was that produced by Pearce (180) by means of hæmolytic immune sera.

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* Crepitus felt in a pronated outstretched hand when this is pressed against the palm of the examining hand. For value of the sign in children seen Lauschner 'Berl. klin. Woch.,' Aug. 20, 1906, S. 1124 ; Aug. 27, 1906, S. 1163.

The clinical evidence in support of the importance of alcohol is, however, much stronger. A mass of formidable statistics, such as those of Fagge (184), Price (42), etc., might be adduced bearing on the drinking habits of those who succumb to multilobular cirrhosis. It is significant that the type of cirrhosis found post mortem in heavy drinkers is by no means the constant one that it is often assumed to be. Although under these circumstances a multilobular cirrhosis is the one most often met with, yet the variety of lesions that may be found has led observers to maintain that alcohol plays a by no means unimportant share in other forms of cirrhosis, notably the unilobular. The view towards which we seem gradually to be trending is that alcohol is not a specific cause of cirrhosis but acts indirectly by favouring the production of one or other of the true causes, varieties of intestinal infections; of these the commonest is that which produces multilobular cirrhosis.

Returning now to cirrhosis in children, the percentage of cases of cirrhosis that have been attributed to alcohol has varied considerably with different observers. Of the 112 cases collected by Jollye (54), alcohol was said to account for 18·7 per cent., to have been excluded as a cause in 46·4 per cent., and to be of doubtful importance in the remainder. Of the fifty-one cases in Hébrard's (31) series seven were alcoholic, but it is to be noted that in twenty-three no cause at all was stated. Of Howard's (52) sixty-three collected cases alcohol was the cause of ten (16 per cent.), could be excluded as acting in forty-seven and was doubtful in six cases. Of twenty-three cases observed personally by Birch-Hirschfeld on the other hand, no fewer than seven were due to alcohol. One cannot, of course, add these series together, for that would mean counting many of the cases at least twice over Hatfield (185), for some unaccountable reason, added together Howard's series to thirty-four cases mentioned by Bamberger and thirty-six mentioned by Frerichs. He concluded from the result of this process that alcohol accounted for 24 per cent. of the cases of cirrhosis in childhood, but overlooked the fact that all Bamberger's and Frerichs' cases were adults. I have been able to read notes of some 300 cases in the literature apart from the peculiar Indian cirrhosis cases. Of these 300 less than a third were of the portal type, the commonest variety being the pericarditic cirrhosis. Now, as I have been able to collect in this paper references to seventy-four cases of alcoholic cirrhosis, most of which were portal, I think it may fairly be claimed that alcohol is, as in adults, the most important clinical cause that we know of at present. The sensitiveness of children to alcoholic poisoning in general I have referred to above, and I may conclude by expressing my opinion that the evidence as to the importance of alcohol in the causation of hepatic cirrhosis in children is sufficient to justify our taking the possibility of its production into consideration when ordering alcohol or permitting its employment in the case of children who are amenable to the influence of our advice.

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[*Errata.*—(1) The proportion of cases in Table A, p. 5, is misprinted per hundred instead of per thousand. (2) In the same table the total cases of cirrhosis should be 372, not 371. (3) The proportion of Förster's cases in Table A and of Toedten's cases in Table B have been transposed. The former should be 9·7 and the latter 1·46. The same mistake in Toedten's ratio occurs in line 11, p. 4.]

A CASE SHOWING CONGENITAL SYMMETRICAL SINUSES OF THE LOWER LIP.

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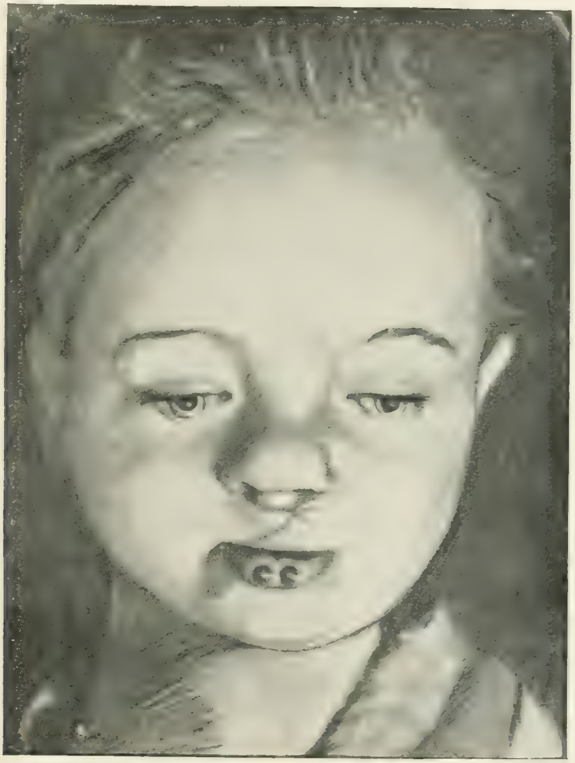
Case.—Lilian A—, now aged 12 months. The child is the fifth of her parents, who themselves show no deformity. The parents were not related before marriage. The other children show no deformity, neither is there any history of deformities occurring in the antecedents or other members of the family. The child was born with a very severe degree of bilateral hare-lip and cleft palate; the premaxilla stood out prominently. The latter was broken and bent backwards, and the upper lip repaired over it. The interesting condition is, however, seen on the lower lip. On the upper surface of this lip on either side of the middle line is a papilla; the two papillæ are symmetrical, and surrounding them in the form of a semicircle on the aspect towards the mouth is a groove, and leading from this furrow is a sinus, which passes downwards into the lip for about a quarter of an inch. The two sinuses end blindly, converge slightly, and are situated immediately underneath the mucous membrane of the lip. Issuing from the sinuses is a mucoid secretion.

Fig. 1.

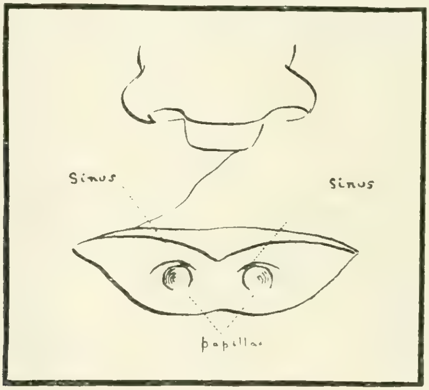


This deformity of the lower lip seems to be one of great rarity. The first observation seems to have been made by Demarquay in 1845. Further cases were then recorded by Murray in 1859, Béraud and Richet in 1861, Rose in 1868, Fritzsche in 1878, and Lannelongue in 1879. In more recent literature I can only find a few references. These are by Sympson, Clutton, Miller, Madelung, Lane, Bland-Sutton, Ballantyne, Woollcombe, and Stirda.

Small sinuses in the lower lip may easily be overlooked by persons possessing them. These patients usually come under notice for the treatment of associated deformities, particularly the deformities of the upper lip and palate. It is conceivable, therefore, that the deformity may be more common than is herein represented.

The deformity appears to be almost invariably bilateral. Lannelongue has, however, recorded an exception, and Fairbank informs me that he has observed a case in which only one sinus was present. It is of interest to note that a similar deformity has been recorded as occurring in the upper lip. Feures has reported the case of a sinus of the upper lip the opening of which was situated on the right side of the philtrum in the somewhat broadened vermilion border of the lip. The direction of this sinus was upward and towards the right nostril; its blind end was situated at the point of reflection of the labial mucous membrane. The sinus was lined with mucous membrane.

Fig. 2.



In the literature I have found references to thirty-eight cases of this deformity, and it is very curious how frequently it has occurred in members of the same family. In the first, recorded by Demarquay, the mother and four out of seven children showed the deformity. Murray observed it in a father and three children. Richet saw it in grandmother, mother, and daughter. Sutton figures the mother, son, and daughter with the deformity. Ballantyne records it in the case of a girl, and adds that the grandfather was stated to have a similar deformity. Lincoln de Castro saw three individuals—a brother and two sisters—each of whom had a double fistula in the lower lip. The father was normal, but the mother had a cleft palate; a seven months' fœtus, which lived fourteen days, had the same condition, as also had the maternal grandfather. Sympson records the family of a mother and all her four children (two girls and two boys) with the deformity of the lower lip. In the case described by Stirda, and in one of those recorded by Woollcombe the parents showed a cleft of the upper lip, but the lower lip was normal.

Deformities apart from those of the upper lip and palate do not appear to be often present. Congenital club-foot was mentioned in the cases recorded by Béraud and Lannelongue. Associated deformities of the upper lip and upper jaw are extremely common, but not invariably present, as has been stated. In one of the four cases described by Murray the lower lip was the only deformity. In the cases of Sympson no mention is made of the upper lip and palate, and presumably these were normally developed. Most frequently the deformity of the upper lip is the complete one—*i. e.* a complete cleft of the palate, a prominent premaxillary bone, and a bilateral cleft of the lip. Sometimes the clefts of the alveolar arch and lip are unilateral (Lannelongue, Stirda). Often the palate is fully developed and a hare-lip only is present (Demarquay, Béraud, Richet, Lane, Sutton, Ballantyne). In Miller's case the upper lip and hard palate were fully developed, but the soft palate was cleft for about two thirds of its length. Clutton's patient came under observation for a cleft palate; no mention is made of the upper lip.

The external appearance of this deformity varies in different cases. The lower lip is generally well formed in other respects. It has been mentioned as being abnormally thickened, the mucous membrane has been recorded as hypertrophied, a median depression of the lip has also been noted. The deformity is symmetrical and is seen just to one side of the mid-line. The simplest appearance is that where a groove, shallow recess, slit-like orifice, or simply an opening is seen on either side of the mid-line on the upper border of the lip. In other cases in addition there is present a papillary elevation as in the case here recorded. An exaggerated condition of this papilla is seen in the case described by Woollcombe. In this case, at a distance of 1 cm. on either side of the middle line, were two depressions out of each of which protruded a nipple-shaped process of about 1 cm. in length. These processes were capable of a considerable amount of movement, and several times a minute were protruded and retracted in a most uncanny way, like "feelers." Madelung and Stirda also noticed movements in these papillary processes. Miller's patient first came under observation when seventeen years of age. In this patient when the mouth was closed from a habit she had contracted of holding the under lip in with the incisor teeth the deformity was not seen, but as soon as the lips were opened there presented in front of the lower incisors what looked like two nostrils, as though a nose had by some plastic operation been placed on the inner side of the lower lip. These openings, which appeared like nostrils, extended down into the thickness of the lower lip for about 2 cm. In Clutton's case there was a fold of mucous membrane on the inner surface of the lower lip. This was exactly central in position and triangular in shape, the apex of the triangle being the most prominent part. At each extremity of the base was a small dimple which looked like the opening of a duct or sinus, but a fine probe could not be introduced beyond the bottom of a depression. The case of Lannelongue differs from the rest in having only one cavity. In this case, on the free border of the lip, there was a cavity with its long axis parallel with the border of the lip, having a length of 1½ cm. and a depth of 1 cm. "Le lèore étart en un mot bifide transversalement." The patient came under observation when fourteen years of age.

The sinus which leads from the external orifice into the substance of the lip is variable in length. It may be represented by a mere depression as in Clutton's case, or it may reach as far into the lip as the reflection of the labial mucous membrane. From the sinus is a more or less continued discharge of mucus. It has been recorded that when the child cries the orifice seems to open and discharge more freely. The direction of the sinus is downwards and somewhat inwards—*i. e.* the two tend to converge, but they do not meet. In the case described by Rose the sinuses appeared to diverge. The sinus is situated immediately underneath the mucous membrane, behind the muscular part of the lip. In the case of Clutton, where there was no actual sinus, but merely a depression, this was situated in the same place on the fold of the mucous membrane, behind the muscular portion of the lip. The single cavity described in the case of Lannelongue had a situation on the lip similar to that of the bilateral sinuses. In this case the anterior wall of the cavity was formed by the skin and muscles of the lip covered with a mucous lining; the posterior wall was formed of the mucous membrane. The papillæ and depressions are usually of similar shape and size. Madelung, however, records the case where the right papilla was slightly larger than the left. In Stirda's case the appearance was not the same on both sides. On the right side was a small papillary elevation which was capable of being moved by the child, and on crying this would retract even to the level of the lip. On the left side was a shallow recess of about $1\frac{1}{2}$ mm. below the level of the lip.

Microscopical examination shows these sinuses to be lined with mucous membrane continuous with that of the lip. The papillæ have been described as being well marked and the epithelial layer thinner, but otherwise there is nothing noteworthy. Opening into the sinus are numerous mucous glands, aggregated chiefly around the blind extremity of the canal and on the wall towards the mouth. Muscle-bundles continuous with the orbicularis oris are present in the papilla and around the sinus.

The origin of this deformity is difficult of explanation and has been variously ascribed. The earlier observers regarded it as a fœtal disease of mucous glands (Demarquay, Murray). This was put forth on account of the continuous discharge of mucus from the sinus. The microscopical examination shows that there is no *disease* of the glands, and this explanation is entirely unsatisfactory. The papillary processes have been explained as outgrowths of the lower lip to fill in the cleft of the upper lip which has been stated as being invariably present. Hare-lip, although very commonly associated, is not invariably present as mentioned above. Such an explanation does not account for the cases which have the sinus and not the papillary process, nor does it account for the constant situation of the sinus just underneath the mucous membrane. This theory is not worthy of any consideration. The case of Feurer of a sinus in the upper lip in a situation where hare-lip occurs—*i. e.* in the plane where during development two processes should completely fuse—suggests naturally a similar etiology for these sinuses in the lower lip. Bland-Sutton, therefore, suggests that these sinuses are probably due to a faulty coalescence of the intermandibular fissure. This does not account for the almost invariable situation of these sinuses to one side of the mid-line and not exactly in the mid-line. The clefts which have been described in the lower lip have been found in the mid-line. An imperfect coalescence of the mandibular fissure would, therefore, give rise to a sinus in the mid-line of the lip. Lannelongue's case might be explained in this manner, but even then it offers no suggestion why the cavity was situated between the mucous membrane and muscular portions of the lip—*i. e.* in an analogous position to the bilateral sinuses—and which on account of this position has probably the same etiology. The idea that the lower jaw is developed from two lateral mandibular arches and a central intermandibular segment has been advanced to account for the lateral situation of the sinuses (Rose, Fritzsche, Ballantyne). These sinuses are formed, according to this explanation, by an arrested development, by a want of function of the mandibular and intermandibular portions of the lip. Bardeleben has recently argued that the chin in man and mammals is a special skeletal element—the os mentale. Even more recently Low has described the result of his researches on the development of the lower jaw and has reviewed the literature on the subject. According to Low the different and opposing views regarding the ossification of the lower jaw arise from imperfect methods of research, and to understand the development of the jaw it is necessary to obtain a complete series of embryos of any one mammal and to make complete serial sections. Dr. Low has a fairly complete series showing the human fœtal lower jaw in its different stages, and from these he deduces in an interesting paper that the human lower jaw is developed in membrane as a single skeletal element, and that Meckel's cartilage becomes ossified towards its anterior extremity and helps to form the jaw in the region of the incisor teeth. He does not find the presence of an intermandibular segment. Clinically there is no evidence as far as I know of the presence of an os mentale from which is developed the central part of the jaw and chin. If this were so, why do not deformities of the lower lip and jaw occur similar to those of the upper lip and jaw? Such deformities, as far as I can gather, have not been recorded. In the very few cases where a fissure has been found in the lower lip this has been in the middle line, and not in the position of these sinuses. If the lower jaw did develop from these segments, such a method of development would not account for the invariable situation of these sinuses immediately underneath the mucous membrane, nor would it explain the papillary overgrowths which are so frequently present. Similar deformities might be expected to occur in the upper lip in place of the common hare-lip. Such deformities in the upper are all but unknown, and Feurer's case seems to be unique. The almost invariable association of some deformity of the upper lip or jaw, or both, has led to the belief that the sinuses in the lower lip are of some similar etiology, and hence have always been regarded as some arrested development. The most recent account of the development of the lower jaw as given by Crow affords no explanation, neither does clinical experience teach us how these sinuses can arise in any way from an imperfect development of the lower jaw. One further fact is that in all the cases which show the deformity of the lower lip the lower jaw is perfectly well formed. The origin of the deformity should therefore be sought, not in any imperfect development of the jaw, but in some irregular growth of the lip. Furthermore it is only the uppermost part of the lip which is involved ; the sinuses do not reach downwards into the chin, they are variable in length, but the longest recorded extend only as far as the mucosal reflection. In quite young embryos the mouth is generally figured as a five-angled opening, the lower impaired angle being in the centre of the mandibular arch inferiorly. Stirda explains this median sulcus as not being due to the site of junction of the mandibular arches, but rather to an excessive growth of the parts on either side. He also describes two grooves which are seen, one on either side of the mid-line on the upper wall of the mandibular arch. These he calls the *sulci laterales labii inferioris*, and explains them as arising from an unequal development of the outer and inner surfaces. These side-furrows, he says, have been observed in dog-embryos, and have also been seen in the human subject. Stirda explains these sinuses as being due to these embryonal side-furrows. In the growth of the lip by an excessive development these furrows will become converted into canals or sinuses. If these lateral sulci which Stirda describes are seen with any constancy, and if they are really furrows as proved microscopically, this would be a plausible explanation of these symmetrical sinuses of the lower lip. But what of the case of Lannelongue, which shows a central cavity ? the case of Clutton, which shows a fold of hypertrophied mucous membrane and a depression on each side ? and the case of Sympson, which shows hypertrophy of the mucous membrane in the central part of the lip ? Stirda's explanation hardly accounts for these abnormalities, yet they ought, in all probability, to have the same etiology since the deformity may be seen to occur in the same plane of the lip.

Mr. Howell Evans has called my attention to a condition found in a species of lower mammals. In Flower's work ('Mammals—Living and Extinct') the description is thus given : The mammal is the genus Taphozonous of the Emballonuridæ. This genus is represented by some ten species inhabiting the tropical and sub-tropical parts of all the Eastern hemisphere except Polynesia. Most of the species have a peculiar glandular sac placed between the angles of the lower jaw. This is developed more in the male than the female, and in some species, although distinct in the male, is quite absent in the female. The open gular sac is wanting in both sexes in one genus, but about the usual position the openings of small pores may be seen. The relation of these to the sinuses of the lip I cannot say.

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The Society for the Study of Disease in Children.

A MEETING of this Society was held at No. 11, Chandos Street, on January the 8th, Mr. G. PERNET in the Chair.

A Paper entitled "Protection of Rheumatic Children" was read by Dr. C. O. HAWTHORNE. Could anything be done to prevent or limit the occurrence of cardiac disease in children? Valvular and other forms of organic heart disease occur with appalling frequency in children, leading to lives of diminished usefulness. This often happens in children whose lives have been free from any incident calculated to awaken a suspicion in the parents' minds that mischief was afoot, the type of rheumatism in a child being so different from that in the adult, occurring mainly in non-arthritic forms. The disproportionate frequency of heart disease in children may be due to this fact and its accompanying difficulty in procuring rest for a sufficient period. If this be so, it is most important that the profession should combine to teach the public, or at least those who have the care of children having a rheumatic inheritance, of the special risks which even slight illnesses may have for their children and of the importance of complete rest as a means for avoiding these risks.

Dr. PORTER PARKINSON fully agreed with the writer of the paper as to the value of rest in such cases, but till the profession were unanimous he was afraid there was little chance of it being enforced.

Dr. EWART considered heart disease was chiefly a matter of toxines and of individual resistance.

The CHAIRMAN pointed out that there were a variety of toxic conditions in children which gave rise to pains in the joints and muscles which had no relation to rheumatism. He doubted the existence of rheumatic inheritance.

Dr. POYNTON fully agreed with Dr. Hawthorne, and pointed out the danger of newly-built flats of bad construction and of clay soil in such cases.

A Case of Volvulus of the Small Intestine round a Caseous Mesenteric Gland was read by Mr. LOCKHART MUMMERY. It occurred in a boy aged 7 years, and began with vomiting and acute pain in the right side of the abdomen; the vomiting continued till admission to the hospital the following day, but it was never fæcal. The pulse was rapid and running, and the lower part of the abdomen did not move on respiration, but was not distended. A large, firm swelling was felt in the right iliac fossa. Nothing abnormal was felt *per rectum*. On opening the abdomen a large coil of gangrenous small intestine was seen, on the point of rupturing at several places; this was resected, and the cut ends of the healthy gut joined by Murphy's button. At the neck of the volvulus was a large, hard, caseous gland about the size of a walnut. The case resembled one of appendicitis, the classical symptoms of acute obstruction of the small intestine being not at all prominent. There was no vomiting after admission to the hospital.

Mr. JAFFREY mentioned a similar case in an adult, but had never seen one in a child. He discussed the difficulty of diagnosis.

Mr. SKELDING (Bedford) had seen many such cases and thought many cases of mild obstruction might be caused by enlarged mesenteric glands.

A Case of Dilatation of the Stomach, probably due to pyloric stenosis, in a boy aged 12 years, and a patient showing the **Results of an Operation for Extreme Depression of the Frontal Bone** were shown by Dr. C. O. HAWTHORNE.

A Case of Diabetes insipidus was shown by Dr. CAUTLEY. The patient was a girl aged 9 years, who had had nocturnal enuresis for two years, and enuresis diurna in addition for six months, with much thirst and excessive appetite. The urine varied between 46 and 262 oz. a day, was pale, acid, 1005 specific gravity and contained 0·5 to 0·9 per cent. of urea. Adrenalin and atropin had effected no improvement, but valerianate of iron and quinine with strychnine were more successful, the polyuria and thirst diminishing and the patient gaining weight. There was no exciting cause discovered, and there was no sign of chronic interstitial nephritis.

Dr. SUTHERLAND considered such cases more probably due to a functional disturbance of the nervous system.

Dr. PARKES WEBER called attention to the theory that diabetes insipidus was perhaps due to inability of the kidneys to excrete the normal amount of salt.

Dr. CLUTTERBUCK had observed a similar case in which iron and ergot caused considerable improvement.

A Case of Premature Development in a child aged 2½ years was shown by Dr. POYNTON. The remarkable growth began at a year old, when pubic hairs and sexual development were first noted. The weight is now 3 st. 1 lb., circumference of head 20 in., of thorax 22½ in., and of abdomen 23 in. The length of the whole arm is 12 in. and of the leg 17 in. The voice is deep and the memory good. Aspect rather suggests acromegaly. There is no suprarenal tumour to be felt. The parents are small and healthy.

A Case of Friedreich's Disease in a girl aged 9 years was also shown by Dr. POYNTON. Five years ago she had measles, with severe cerebral symptoms, and had not been well since. She has now well-marked ataxy of legs and inco-ordination, with tremor of hands. Doubtful nystagmus. Knee-jerks abolished. Right plantar reflex is extensor, but the left is flexor in type. Some lordosis of upper dorsal spine. Double pes cavus. Speech slow. No changes in the fundi of the eyes.

Œdema in an Infant was shown by Dr. GEORGE CARPENTER. The patient was 14 months of age, and weighed 7 lb. The œdema, which came on after an attack of diarrhœa, affected the face and limbs. The child was anæmic and the temperature subnormal. The urine contained no albumin.

A Case of Webbed Penis was shown by Mr. LOCKHART MUMMERY. The penis was enclosed within the skin of the scrotum right up to the tip. There was no other abnormality and no history of similar defects in the family.

A Case of Congenital Cerebellar Ataxy? was shown by Dr. G. A. SUTHERLAND. The boy, aged 3 years, had suffered from general ataxy for eighteen months. He was healthy at birth, but had convulsions when six months old. At two years he was unable to sit or stand unsupported and the limbs were tremulous and ataxic. The speech and intelligence were very backward. The knee-jerks were very active. There was double internal squint and the optic discs were pale but not definitely atrophic. The condition has remained the same for the past nine months except that the child can now sit without support.

Dr. SUTHERLAND thought it probable that the case was one of birth palsy following meningeal hæmorrhage, perhaps involving the cerebellum.

A Case of Congenital Deformities of the so-called Mongolian type of Amentia was shown by Dr SUTHERLAND. The girl, aged 8 years, showed the shortening and incurving of the little fingers and the oblique palpebral processes so characteristic of the Mongolian type of imbecility; but this patient was perfectly intelligent and had no cranial deformity. She was under treatment for fibroid phthisis.

Editorial.

THE EARLY RECOGNITION OF CEREBRO-SPINAL MENINGITIS.

At the present moment, when the possibility of an outbreak of this disease confronts us, it may be opportune to consider some of the aspects of its prevention. Clearly the prevention of its spread, when cases occur, depends chiefly on two pieces of knowledge: first, the ability to recognise, or at least suspect the disease in its earliest stage, and secondly, the knowledge as to the mechanism of its conveyance. In spite of the vigilance of our health authorities, the existence of a considerable number of cases in Glasgow, Belfast, and other northern towns renders the chance of an extension southwards a very real one, and, in fact, several cases have already occurred in London within the past few weeks. Concerted action in the form of increased watchfulness throughout the whole profession is the surest safeguard against any such extension assuming serious proportions. We are all the more justified in calling the special attention of the profession to the need for this increased watchfulness when we reflect on the disastrous consequences that befell London when smallpox appeared but a few years back. It is notorious that much of the ravages caused by that epidemic would have been prevented by action during the early days, but that such action was seriously impeded by the lack of preparation, and even actual ignorance shown by the profession in matters of diagnosis between smallpox and chickenpox. We trust, and may fairly anticipate, that in the case of epidemic meningitis no such dangerous extension is at all probable, but we confess to more discomfort if we are asked if the state of preparation of the profession to cope with such an extension is any more satisfactory now than it was in the case of smallpox. It undoubtedly behoves all those who are in daily practice, and especially those who have to do with the care of children, to arm themselves, first, by as complete a knowledge of the early symptoms as is practicable, and, secondly, to keep a keen look-out by always bearing in mind the possibility of the condition being present when dealing with cases manifesting anomalous or doubtful symptoms.

Such excellent descriptions of the disease may be found in various text-books and monographs that there is no need for us to embark on any discussion of the diagnostic features here. We should like, however, to make a few remarks on the direct question as to its spread and prevention. We may take it as practically certain that infection is always from one person immediately to another. This has been proved by the features of distribution exhibited by outbreaks in barracks and other institutions, by the exclusion of indirect factors, such as clothing, food and water supply, and by the natural history of the causative diplococcus, whose life outside man is so precarious. The method of conveyance is, in all probability, by respiratory infection. The presence of the diplococcus in the post-pharyngeal mucus has been ascertained in a very high percentage of the cases; even in those in which the cranial infection has been supposed to have originated in the ear, the *fons et origo* must have been post-nasal in most instances. Again, it is often a matter of great difficulty to distinguish the disease at its onset from influenza of the nervous type. The nervous manifestations of influenza and its actual nervous complications are often so alarming as seriously to raise the question of meningitis being present; indeed, we know nowadays, through lumbar puncture, that influenzal meningitis, which so often recovers, is, in fact, present by no means rarely in such cases. Cases of measles before the rash, and whooping-cough before the characteristic whoop, may similarly cause difficulty; it is known that both these diseases may run their course without at any time developing the diagnostic manifestations, and yet may cause typical cases of the disease when passed on to another person. Such cases are, of course, practically indistinguishable from cases of influenzal cold.

There being this difficulty in diagnosis between the different members of the group of conditions due to infection of the upper respiratory passages and epidemic meningitis, our only rational course, when we cannot always differentiate the conditions, is to treat them all as infective diseases, the spread of which should be prevented so far as possible. Unfortunately, the attitude of most of the profession on this matter is still most conservative, and therefore unsatisfactory. It is true that patients with influenza and influenzal colds—the two complaints merge into each other—are often advised to remain indoors, so as to avoid the "risk" of being exposed to fresh air; but how often are such patients isolated at home, or even the visiting of friends seriously discountenanced? Then, how common is it for such patients to be allowed to return to their work even within a couple of days, spreading infection right and left in crowded tube lifts, omnibuses, and railway trains, by means of indiscriminate coughing, hawking, and sneezing. The very scorn displayed by people towards a man who "lies up for a mere cold" is eloquent of the failure of the medical profession to instil into their patients the significance of such conduct, and the appalling results on the community wrought by the sum total of respiratory infections and their after-effects, both immediate and remote. This state of affairs would soon change if the attitude of the medical attendant towards such complaints were as stern as it is towards scarlet fever, chickenpox, etc.—diseases which exact from the community nothing approaching the toll, in both mortality and morbidity, that pure respiratory affections do.

To sum up, we would dwell on the necessity of the profession furbishing its knowledge of epidemic meningitis by perusal of the latest descriptions, and reconsidering its unthinkingly adopted attitude of levity towards certain respiratory symptoms.

Abstracts from Current Literature.

Medicine.

A case of tic convulsif (*'Arch. Gén. de Méd.,' May* 8, 1906, *p.* 1180).—**R. Cruchet** expounds this subject *à propos* of a case. He first draws the accepted distinctions between habit tics, convulsive tics, and stereotyped movements. The specific characters of convulsive tic are (1) it is adapted to a function; (2) it is brisk, sudden, short; (3) it is frequently repeated; (5) they are involuntary and imperious. The patient was a boy aged thirteen years. He had suffered from tic for two years, beginning at the age of six.

When twelve years old, after a severe fright, the tic reappeared in an exaggerated form. The head and shoulders were the parts affected, but there were also marked disturbances of speech, with logolalia. The diagnosis is discussed in full. The prognosis is grave as regards recovery, but not hopeless. ERNEST JONES.

Hysterical fever in children (*Soc. Med. des Hôp., May* 11, 1906, '*Arch. Gén. de Méd.,' tome* CXCVII, *p.* 1341).—**Comby** presented a note on this subject *à propos* of a case that he had seen in a girl aged 13 years. In this instance the temperature rose to 44° C. (111° F.). This hyperthermia may be the only symptom, and may occur with no grave trouble of the general condition. ERNEST JONES.

Infantile cerebral hemiplegia: reflexes abolished in the lower limb, just present in the upper ('*Arch. Gén. de Méd.,' May* 15, 1906, *tome* CXCVII, *p.* 1236).—**Bouchaud** reminds us that infantile cerebral hemiplegia is usually described under two forms—the spastic and the athetotic, and that the variety he now describes is rarely mentioned. He then describes in full detail the case of a boy, aged 10 years, who had suddenly been afflicted with a left hemiplegia three and a half years ago. The essential features of the case were as follows: the paralysis chiefly affected the arm, the face entirely escaping, and the leg almost so. The joints of the upper extremity were slightly flexed. A striking feature was the lack of development in the upper limb; this was marked and uniform. There was no rigidity. Slight disturbance of sensation was present in the upper limb. No deep or superficial reflexes could be elicited in either of the lower limbs. The triceps jerk of the left side was the only reflex obtainable in either of the upper limbs, and that only with difficulty. The diagnosis of the case is discussed fully, poliomyelitis being excluded mainly by the normal electrical reactions found. Absence of all the deep reflexes in health is extraordinarily rare; for instance, Féligoeus found the knee-jerk absent in only one out of 2403 children, and even then it could be elicited by Jeudrassik's manœuvre. The literature on the subject is sparse. Absence of the reflexes in hemiplegia has been signalled occasionally, but almost always only with advanced contracture. ERNEST JONES.

A study of the heart in chorea (Amer. Med. Assoc., June, 1906; '*Medical Record,' June* 23, 1906, *p.* 1032).—**W. S. Thayer** read a paper based on the study of 808 patients with chorea, observed at the Johns Hopkins Hospital. Over 71 per cent. were female. Cardiac murmurs were observed in 41 per cent. of the total number and in 85 per cent. of those that were in-patients. In over a half of this 41 per cent. the signs were indicative of organic disease. The lesions were mitral in 157 cases, aortic in 12. The frequency of the complication increased with the number of attacks. Other points were referred to, the most important being that fever occurring in a chorea patient with no rheumatism, and especially if with a rapid pulse, was strongly suggestive of acute endocarditis. ERNEST JONES.

The feeding of infants during the hot weather ('*Medical Record,' June* 23, 1906, *p.* 1001).—**I. L. Polozker** read a paper dealing very fully with this important subject. He first discusses the indications for weaning, and insists that the rules given by Holt are not universally applicable, but must be judged separately in every case. Dealing next with the subject of diarrhœa, he adopts Dunn's grouping into (1) acute nervous diarrhœa with loose stools of normal colour and odour, and without abnormal constituents; (2) irritative diarrhœa with curds and undigested masses; but no fever; (3) fermentative diarrhœa having green stools with sour odour; no fever; (4) infectious diarrhœa, fever, and signs of ileocolitis; blood and mucus; (5) cholera infantum. The third of these groups is the larger. The treatment is much the same for all the cases—namely the administration of castor oil, which is preferable to calomel on account of its rapid action and absence of staining effect, with feeding simply on boiled water; after twenty-four hours a little rice-water is allowed. With a bottle-fed baby a Walker-Gordon treatment should be adopted. This is discussed in great detail. Broadly speaking, the author recommends a higher percentage of proteid and lower ones of fat and carbohydrate than is generally employed; excess of fat is responsible for a great deal of alimentary derangement. The results of careful feeding with clean milk, individual attention being paid to each case, were remarkably good. The figures of W. J. Howarth, based on 8348 cases, were given in reference to the influence of feeding on infantile mortality. The death rate per 1000 was 197·5 among hand-fed children, 98·7 among partly nursed children, and 69·8 among breast-fed children; children fed on artificial food showed a higher mortality rate than those fed on cow's milk; for instance, amongst those fed on condensed milk the rate was 225. The whole article is well worth perusal. ERNEST JONES.

Cerebral syphilis in children (Amer. Med. Assoc., June 6, 1906; '*Med. Record*,' *July* 2, *p.* 120).—**Arthur Fairbanks**, of Boston, read a paper on this subject based on a study of over a hundred published cases. The onset of the phenomena is, as a rule, subacute with the occasional occurrence of individual symptoms of a very acute character which tend to remit suddenly. Some cases react rapidly to treatment, while others are very obstinate. Changes in disposition and intellect are earlier signs in children than in adults, and nearly always precede bodily evidences. Circulatory disorders, vertigo, disturbance of speech and vision, and syncopal attacks may be prominent. ERNEST JONES.

Acetonemic vomiting and infantile hysteria ('*Rev. Mens. des Mal. de l'Enf.*,' *July*, 1906, *p.* 289).—**Rudolf Fischl** considers the subject of acetonemic vomiting mainly from the etiological aspect. He thinks that hysteria is an important cause, although most authors reject this view. The simultaneous appearance of the complaint in several children of a family, its course, the sudden vomiting, so very violent, with its equally sudden cessation and immediate return to health all make one think of hysteria. The periodic occurrence and the possibility of curing the child by so many diverse means, from merely darkening the room to the injection of artificial serum, point in the same direction. As to the acetonemia, this is not rare in infantile hysteria even apart from gastro-intestinal disturbance. Fischl reports fully three cases he had seen in the past month; the symptoms strongly support the view above enunciated. ERNEST JONES.

On a somnolent variety of tubercular meningitis in infants at the breast ('*La Pediat.*,' *Sept.*, 1906).—**R. Jemma.**—Tubercular meningitis in the first year of life differs considerably from that occurring in older children. The symptoms are not according to the classical description. Headache cannot be determined, the characteristic cry is wanting. Vomiting is present, but at this age it is such a common symptom that not much diagnostic importance can be attached to it. Diarrhœa often replaces the characteristic constipation. There is moderate fever. Stiffness of the muscles of the back of the neck, and tense fontanelle are more suggestive, especially if accompanied by ocular disturbance and convulsions, or paralysis. Some have divided the disease in infants into the two varieties, the convulsive and the hemiplegic. Lesage and Abrami in twenty-nine cases of tubercular meningitis in sucklings have only had three of the convulsive and one of the hemiplegic type, while in the other twenty-five cases there was an absence of motor symptoms. The symptoms were chiefly drowsiness, fixity of the eyes, peculiarity of the pulse, and wasting. The drowsiness was the dominant symptom. This symptom appears suddenly, there being no premonitory symptoms as a rule, though vomiting and diarrhœa may usher it in. The condition of the pulse is one of instability; at one time it may be 80 or 90, and an hour later it may have risen to 130, 140, 160.

J. PORTER PARKINSON.

On the diagnosis of infantile pleural effusions and Grocco's symptom ('*La Pediat.,*' *Sept.*, 1906).—**D. Durante.**—Pleural effusions in early infancy were at one time considered rare, but lately they have been noted at all ages, even in the newly born. The only symptoms may be fever and intestinal disturbances. They often pass as bronchitis when a more rigorous examination would determine the existence of pleurisy, either dry or with effusion. The usual signs of diminished movement and displacement of the heart are not easily recognised in a crying infant. A diminution of vocal fremitus is a valuable sign, and there may be a diminution of the intercostal spaces, with increased resistance, on the affected side (Prezwalski's sign). Auscultation is of little value, as the breath sounds may be weak, loud, tubular, cavernous, and so on; dulness and increased resistance on percussion is the most valuable sign. Another sign is to percuss with one coin on another placed on the sound side of the chest; if one listens over a symmetrical spot on the other side of the chest and effusion be present, one hears a clear, silvery sound as if the coins were hit close to the ear. Grocco's sign is to percuss the chest behind in the mid-line from above down till the note is definitely dull; then from this can be made out a triangle of dulness on the sound side of the chest, the base of which is longer the larger the amount of effusion. This sign has great value, as it distinguishes pleural effusion from other conditions which may simulate it; but, unfortunately, it is very rarely found in infants, partly, perhaps, owing to the frequency of loculated effusions at that age. Some have drawn attention to a dilatation of the pupil on the side of the effusion, but this is only present in a minority of the cases.

J. PORTER PARKINSON.

When should one consider pleurisy in a child cured? ('*Journ. de Méd. de Bordeaux,*' *September* 6, 1906).—**Rousseau-Saint Phillippe.**—At one time pleurisy was merely considered as an inflammation without gravity and of no future importance; then, with the progress of bacteriology, many cases were found to be tuberculous and the prognosis became less hopeful. In children pleurisy is most frequent about the age of five to six years, and it complicates especially lung affections, as pneumonia, tuberculosis, bronchitis, infarcts, gangrene, etc.; then general affections, as scarlatina, whooping-cough, rheumatism, typhoid fever, septic infections;

abdominal diseases, as peritonitis, appendicitis, disease of the liver, spleen, kidneys, and heart; rarely affections of the pharynx, œsophagus, or vertebral column. It is remarkable that tuberculosis is a much less frequen-cause than in the adult, while pneumonia accounts for one quarter to half the cases. It is much more often purulent than in the adult owing to the presence of the pneumococcus, and this should be treated, like an abscess, by incision and drainage, best by removal of a portion of a rib. In serofibrinous effusions salicylate of sodium seems to be useful when the disease appears to be the result of a chill; sometimes very hot compressers covered with cotton-wool and gutta percha seem to help the absorption of the fluid. The case must, however, not be considered cured because the effusion has disappeared, and it is sometimes difficult to determine this owing to adhesions, persistence of dulness, ægophony, etc. It should not be considered as cured if friction sounds, dulness, weak heart sounds, and loss of movement remain, for the function of the lung is not properly restored, and it will be a spot of diminished resistance, a suitable soil for development of tubercle or other disease. To prevent these consequences after-treatment is most desirable—fresh country, mountain, or sea air, superaeration, and over feeding. Respiratory gymnastics are also useful. J. Porter Parkinson.

The reduction of disease by means of disinfection (*'Journ. de Méd. de Bordeaux,' August*, 1906).—**Daorzæ** in the course of an article on this subject shows that in Bordeaux between the years 1891 and 1902 the mortality from smallpox diminished from 284 to 2, scarlatina from 14 to 6, measles 92 to 42, diphtheria 76 to 30, etc. During this period the annual number of disinfections were augmented from 359 to 2138. The percentage of deaths from 1901 to 1905 were as follows: scarlet fever, 42 per cent. to 3 per cent.; measles, 6·9 per cent. to 10 per cent.; diphtheria, 16·9 per cent. to 12 per cent. In the case of measles a specially violent type occurred recently. J. Porter Parkinson.

On infantile eczema (*'La Clin. Infant.,' Aug.*, 1906, *No.* 15, *p.* 449).—**G. Variot**, in the course of an interesting lecture on this subject at the Children's Hospital, Paris, says eczema is generally found in children who are too well nourished, appearing when the digestive tract is in some way overworked and that the bottle is usually to be blamed. Mothers increase the quantity of milk the more readily the better the infant seems to thrive, often adding starchy foods, and paying no attention to frequency of stools or their pasty or grey appearance. A large dose of milk of bad quality will often cause a serious enteritis at the same time as a subacute eczema. In infants at the breast the cause of these attacks resides in the nature of the milk rather than in its quantity, and the milk is often of good appearance and creamy; but excess of fat is neither sufficiently constant nor frequent for it to have much pathogenic value as regards eczema. The same may be said of casein. Chemical analysis cannot solve the problem any more than it can explain why the milk of nursing women becomes toxic at certain periods. It is not uncommon to see at each menstrual epoch that the nurslings have eczematous attacks which disappear as soon as the menstruation ceases. Often the eczema shows itself some days before the flow and ceases before its termination. These periodically "eczematigenetic" milks are allied to the constantly "eczematigenetic" milks without the direct cause being known. Both rickets and eczema are toxic manifestations of intestinal origin and this theory is very important from a practical point of view, and enables us to avoid the disaster which may result from a too energetic local treatment, and shows us the good effects and necessity of well-directed gastro-intestinal treatment. The pruritus of acute eczema may be calmed by moist compresses applied to limited regions, and recourse may be had to anodyne zinc ointments and starch baths, but we should always avoid treating at the same time too extensive an area of skin. Mild purgatives, such as magnesia and castor-oil, are the best intestinal antiseptics, and far preferable to powders of betol, salol, naphthol, etc., which are harmful to the delicate digestive mucous membrane of infants. Small daily injections with decoction of marsh mallow are useful as a detergent to the large intestine. When digestive troubles are acute the patients must be put on a diet of boiled water or rice-water for twenty-four to thirty-six hours. Pure water is the best remedy for acute gastro-enteritis, and opium, lactic acid, and tannin should be relegated to the second place. To each feed a tablespoonful of solution of citrate of soda (5 grammes to 300 c.c. of water) may be advantageously added. In rebellious cases asses' milk, whey, or buttermilk may be tried. Where eczema has passed into a condition of chronic dermatosis ointments of ichthyol or oil of cade give good results, or the patient sent to Bourboule or Châtel-Guyon, where there is a mineral water treatment adapted to nurslings. VINCENT DICKINSON.

General ankylosis (*'La Pediatria,' August*, 1906, *p.* 603).—**M. Reano** reports this case in a lad aged 15 years. His growth was normal until about ten years old, when he began to suffer from pain in the spine and swelling in the right knee without suppuration. Then followed rigidity in the joints of the knees, hips, and elbows, in the space of a few months. He presented rigidity of the spine and temporo-maxillary joints; the thorax was rachitic, the upper extremities atrophic, cold and cyanotic, the elbows completely ankylosed, the shoulder-joints partly so, the joints of the hand normal. There was ankylosis, more or less complete, of the hips and knees, the ankles puffy and partially ankylosed. There was no articular or muscular pain nor crepitus. Sensation and superficial reflexes normal, but patellar reflex was brisk and there was ankle-clonus. Babinsky's sign absent. Faradic excitability normal, slight galvanic hyperexcitability. Radioscopy showed deficiency of lime salts in epiphyses and diaphyses, and no ossification of ligaments. As regards the pathology the author excludes a myopathy on account of the exaggerated reflexes and the topography of the atrophied muscles. Spinal muscular atrophy is distinguished by its beginning at the distal end of the limbs, by fibrillar contractions, diminution of excitability, and often reaction of degeneration and by weak or absent reflexes. The characteristics of rheumatic arthritis deformans were absent—*i. e.* gradual ascent of the morbid process from the point to the root of the limbs, deformity of the hands, articular crepitus, and muscular contractions. As regards the spondilosis rizomelica described on the one hand by Bechterew and on the other by P. Marie and Stumpell, in the former the spine alone is affected and in the latter the ankylosis is limited to the spine and root of the extremities and there is ossification of the ligaments. This being, therefore, also excluded, the author thinks the case approximates to one described by Kritchevsky-Gochbaum ('Thèse de Paris,' 1900) and another by Apert ('Arch. de Neurol.,' 1901 1902), the muscular atrophy being secondary to the ankylosis, which is itself dependent on a special affection of the cancellous tissue the nature of which is not yet established.

VINCENT DICKINSON.

Head-rolling and other movements ('*Clin. Journ.*,' *November* 21, 1906).—**Still** stated in a lecture that head-rolling occurs chiefly in infants under two years, and may persist even during sleep. The movement is associated, in a large number of cases, with rickets, and is due to some peripheral irritation, such as inflammation of the middle ear or dentition. Head-banging—*i. e.* beating the head continually against the floor or some neighbouring object, and not a mere outburst of passion—is likewise associated with the same causes, but does not appear to be so frequently the result of middle-ear disease as head-rolling. Neither of these conditions is due to meningitis or cerebral tumour. Body-rocking is most often in an antero-posterior direction, more rarely in a lateral, and occurs in children who are old enough to sit up. The movements occur at short intervals and may continue for hours; occasionally they are continued during light sleep and may be accompanied by a cooing noise, or head-rolling or some other rocking movement substituted. Children exhibiting this peculiarity are of an odd temperament, showing undue reserve or self-consciousness, or some other nervous abnormality, though their intellectual powers are unimpaired. The condition is, therefore, to be distinguished from the very similar rocking which is often seen in imbeciles, and differs from the movements which accompany masturbation. Head-nodding is often spoken of as *spasmus nutans*, but the movements are sometimes lateral in direction. It is a rhythmic, even swaying of the head, which occurs only when the child is in a sitting posture, and is more vigorous than head-rolling, having the appearance of a voluntary movement. The condition is very frequently associated with nystagmus, which is uniocular and fine and rapid in character. Both the head-nodding and the nystagmus are present only at intervals, and either may occur without the other. The child often looks at objects out of the corners of its eyes in a curious, shy manner. The disorder occurs, in the majority of cases, between the months of November and March and almost invariably during the second half of the first year of life, and thus corresponds to the period of dentition; in its turn it also is frequently associated with rickets. Owing to the seasonal incidence it has been suggested that head-nodding is due to living in dark and ill-lighted rooms. With this the author does not agree, and he remarks that *laryngismus stridulus*, another nervous disorder associated with rickets, has the same time-incidence, and cannot be supposed to be due to a deficiency of light. In all these conditions the source of irritation should be sought for and treated, and the general health of the child looked after. Otherwise it is better to leave the patient alone than to resort to the use of such sedatives as phenazone and bromides.

[*Vide* JOURNAL, December, 1906, p. 557.] T. R. WHIPHAM.

Five cases of ankylostomiasis ('*Australasian Med. Gaz.*,' *August* 20, 1906).—**F. Hamilton Kenny,** of Glympie, Queensland, reports the presence of ankylostomiasis ova in myriads in five children, aged from 6 to 14 years, members of one family. They had been under various treatments ineffectually. The children presented the usual anæmic symptoms, and after admisssion to hospital the fæces were examined. There was no sanitary accommodation at home, and the children ran about bare-footed. After fasting, each child was given 5 grs. of thymol hourly for six doses, the eldest child receiving 10-grain doses. The same treatment was carried out a week later, when, ova being still present, it was repeated at the third week. Finally the children were sent home quite cured. Kenny remarks that he did not find it necessary to give the large doses of thymol sometimes recommended. M. D. EDER.

Rubella, or the fourth disease? (*'Brazil Medico,' Sept.* 22, 1906).—**Austregesilo**, dealing with an epidemic disease that he saw recently, describes it as having been epidemic for the last three or four years in Rio de Janeiro. After excluding scarlet fever, measles, urticaria, influenza with rash, under which names many of the cases had been diagnosed, he concludes that the disease was either rubella or the fourth disease, or a combination of the two. The incubation was from four to fifteen days; temperature 37·5 to 38·5° F. A characteristic feature was that the rash was abundant and the reaction very slight. The eruption was rapid in onset, generalised, confluent, and disappeared in three days. The symptoms were always benignant. In some cases the classical features of rubella were present—early eruption, slight fever, short duration, cervical glands enlarged, erythema of pharynx—whilst both children and adults were attacked. In other cases there was a greater resemblance to the scarlatiniform rubella of Filatow or to Dukes's fourth disease with albuminuria, fever, redness of pharynx, mulberry tongue, and ephemeral scarlatinal rash, leaving a furfuraceous desquamation. M. D. EDER.

Recurrent vomiting and acetonæmia (*'Arch. of Pediat.,'* 1906, XXIII, *p.* 530).—**A. W. Myers** reports a case in a girl aged 13 years. She was a premature child of neurotic ancestry, stoutly built, and a little backward mentally. Attacks of persistent vomiting had occurred about once a year since the age of six. Two of the attacks had been severe, lasting about a fortnight. The appetite was always peculiar. The last attack followed a severe fright. Some of the vomit contained a little bright blood and some coffee-ground material. Bowels acted freely. Mental condition dull and heavy, with restlessness and extreme irritability. Tongue fairly clean; temperature 99·5; pulse full and rather slow. Bicarbonate of soda was given by the mouth and *per rectum*. Improvement was rapid, but she was not quite well until after ten days. There was no fever after the first day. Slight jaundice was present. Acetone, diacetic acid, and β-oxybutyric acid were found in the urine, also 2·1 per cent. of urea, a trace of albumin, no sugar, and no indican. The diacetic acid was present for five days. The bicarbonate afforded very definite relief. EDMUND CAUTLEY.

Heart disease (*'Arch. of Pediat.,'* 1906, XXIII, *p.* 508). **G. W. Norris** finds that heart disease is twice as prevalent in London hospitals for children as compared with three American hospitals. The proportion was still higher in France, and very much lower in Germany. Both sexes are about equally liable to congenital lesions, but acquired ones are more common in girls, perhaps because of chorea. On the other hand, congenital morbus cordis seems to be more common in America than elsewhere.

EDMUND CAUTLEY.

Acute suppurative thyroiditis (*'Arch. of Pediat.,'* 1906, XXIII, p. 591).—**F. S. Meara and R. S. Macgregor** record a case in a baby of three months. At the age of two months he had suppurative cervical adenitis. Three weeks later he developed acute fever, cough, and swelling of the thyroid gland. The fever became less, but the swelling persisted and dyspnœa became alarming, with inspiratory stridor and retraction. The swelling chiefly involved the left lobe, was tender and fluctuated indefinitely. Intubation gave marked relief. The tube was kept in for a week and the child was able to nurse comfortably. Severe obstructive dyspnœa supervened on one occasion, when it was removed. After this a larger tube was necessary to relieve the dyspnœa. An incision was made and about an ounce of thick yellow pus was evacuated. Recovery was uneventful. The affection is very rare in an idiopathic form. It has been reported as secondary to typhoid fever, exanthemata, diphtheria, parotitis, influenza, and pneumonia. The inflammation may resolve without suppuration. Dr. George Carpenter ('Reports of the Society for the Study of Disease in Children,' 1903, vol iii, p. 157) reported a primary case in a rachitic infant, aged 14 months. The present case was undoubtedly secondary to the cervical adenitis or, possibly, an attack of influenza.

EDMUND CAUTLEY.

Scarlatina and lactation (*'Thèse de Paris,'* 1906).—**Lemarquand** points out that scarlet fever under one year is not so rare as some authors maintain. Its prognosis is grave, the mortality ranging from 33 to 55 per cent. A woman suffering from scarlet fever should, nevertheless, suckle her child, infection of the nursling by the mother being very rare. The author reviews the literature, and records twenty-two personal cases, in all of which the child escaped infection. In no case was lactation harmful to the mother. Some gastro-intestinal disturbance was present in the child in nearly all cases, but soon disappeared after the mother's temperature became normal. Streptococcal infection must be guarded against by strict attention to the child's mouth and the mother's breasts. The child's immunity is attributed to the antitoxic properties of the milk. In support of this theory is the fact that some children hitherto breast-fed were isolated after the mother had developed scarlet fever, but, nevertheless, caught the disease some time later. J. D. ROLLESTON.

Measles conveyed by a healthy third person (*'Münch. med. Woch.,' September* 18, 1906).—**Siegert.**—A girl, aged 7 months, was admitted to hospital for chronic dyspepsia on March 5, 1906. On May 10 the temperature rose to 100·4° F., and on May 11 Koplik's spots were seen. The eruption of measles appeared on May 12. Death from broncho-pneumonia and enteritis took place on June 11. There had been no case of measles in the hospital, but it was found that the mother, having just left home, fifteen minutes' walk distant, where her three other children were ill with measles, had visited the child on April 29, and had carried her about the ward for ten minutes. J. D. ROLLESTON.

Infantile mortality and goat's milk (*'Lancet,' November* 3, 1906).—**Wm. Wright** points out the advantages of goat's milk in infant feeding. The goat, he says, is practically immune to tuberculosis, and with but few exceptions the only instances in which this animal has been found to be suffering from this disease are when it has been closely housed with tuberculous cows and has obtained its infection therefrom. The casein of goat's milk forms a flocculent and much more digestible curd than that of the cow. The nourishment obtained from goat's milk is also superior to that of cow's milk, and is more suitable for infants. The alleged odour of goat's milk is a mistaken idea. If the goat is allowed to roam about and to eat weeds, twigs, and all kinds of vegetation at will, the milk will be very strong in odour; but if the animal is fed in an English meadow or roadside, the milk will resemble that of the cow in flavour.

JAMES BURNET (Edinburgh).

A case of fœtal bone disease (chondrodystrophia fœtalis hyperplastica?) ('*Lancet,*' *Nov.* 10, 1906).—**F. Sherwill Dawe,** at a meeting of the Pathological Society, showed specimens from a child who lived seven days after birth, and in whom the condition described was present at birth. There were bony masses in the regions of the tuberosities and trochanters, bowing of the fibulæ and tibiæ, and a double bead on the ribs. The bones of the lower extremities were fractured during birth. Sections of the beads on a rib showed a condition very similar to that in the bead of a rickety rib. The viscera were normal. The clinical signs of achondroplasia were absent. The mother was healthy. JAMES BURNET (Edinburgh).

Adolescent or late rickets ('*Lancet,*' *Nov.* 10, 1906).—**H. H. Clutton** reports three cases of this disease. The first is that of a male Italian aged 21 years, the second (a patient of Dr. Colman's) a girl aged 13 years, and the last a girl aged 12 years. In commenting on these cases Clutton remarks that adolescent rickets must be looked upon as practically the same disease as infantile rickets, modified in some respects by the age of the patient. It may be a recrudescence of what the child had suffered in infancy. Prolonged mental strain during school life may account for its occurrence. Sexual development, too, may have far-reaching effects. There does not appear to be any special treatment applicable to such cases. Diet, education, and fresh air must all receive careful attention. Thyroid extract may be tried. Osteotomy with a view to correcting deformities should be postponed till all active signs of rickets have disappeared. JAMES BURNET (Edinburgh).

A case of sclerema neonatorum ('*Lancet,*' *Nov.* 10, 1906).—**Rubert Waterhouse** records a case of this disease in a female infant aged 7 weeks. The mother had had fourteen confinements previously and one miscarriage. During this pregnancy she had "fits" which may have been eclamptic. The father was healthy. The peculiar condition of the skin was first observed on the buttocks four days after the child's birth. She was entirely breast-fed. When first seen at the seventh week she appeared small for her age, and only weighed 6 lbs. The nasal bridge was depressed, but there was no history of snuffles or of rash. Indurated patches were present over lumbar and upper sacral regions, over each deltoid, and on each buttock. In none of the indurated regions did firm and prolonged pressure produce any pitting. A short time afterwards the temperature began to rise, and the patient appeared to be distinctly ill, although nothing was found to account for this. She eventually died. A post-mortem examination of the body was made on the following day. On cutting through the skin and subcutaneous tissue greater resistance to the knife was encountered than usual, and it was found that the panniculus adiposus, instead of containing loose, yellow, greasy fat, was almost dead white in colour, soft, but compact, intimately adherent to the skin, and resembling in appearance inspissated sebum divided by connective tissue into small areas from about one sixteenth to one eighth of an inch square. No trace of human fat could be discovered anywhere, and the absence of fat in the omentum and around the kidney was very conspicuous. The connective tissue of the cutis vera was more dense than normal, and strands of fibrous tissue extended into the subcutaneous tissue, dividing it up into compartments in which was contained a stearine-like deposit. This deposit stained brightly with Fett Ponceau and deeply with osmic acid, the latter reaction being especially interesting in view of the fact that only olein and oleic acid, and not palmitin or stearine, are said to reduce osmic acid. JAMES BURNET (Edinburgh).

Gonorrhœal vaginitis in children (*'Med. Record,' March* 10, 1906).—**W. D. Trentwith** reports twelve cases. The treatment advocated is irrigation of the vagina with 1 : 4000 potassium permanganate by means of a catheter attached to an irrigator and passed well into the vagina. The irrigations were carried out two or three times daily according to the severity of the case. Later on, when the discharge had become slight, silver nitrate injections were given. The average period of treatment required before a cure was effected worked out at four and a half months. Lastly, the author dwelt upon the great necessity for care in keeping cases of gonorrhœal vaginitis out of the day nurseries and babies' hospitals, because of the epidemic character which it assumed among the inmates.

P. Lockhart Mummery.

Pathology.

Congenital atresia of the larynx (*'Virchow's Archives,'* Bd. 182).—**Frankenberger** remarks on the extreme rarity of congenital stenosis and atresia of the larynx. Of the latter only four cases have been reported and the writer now adds a fifth. In the larynx of a stillborn child the rytenoid cartilages were replaced by large cartilaginous nodules, which stood out prominently under the mucous membrane. The vocal cords were present, but the opening of the glottis was completely obliterated. The trachea was normal. Microscopically there was no evidence of old inflammation, the epithelium was cylindrical, and the mucous membrane normal, though at the actual line of adhesion mucous glands were absent. The tissue binding the cords together was partly connective and partly muscular, and was plentifully supplied with blood-vessels.

T. R. Whipham.

Diagnosis of meningitis (*'Med. Press,' September* 5, 1906).—**Montagnon** is quoted as laying stress on the amount of albumen in the cerebro-spinal fluid obtained by lumbar puncture as an important sign in the diagnosis of meningitis. In the normal condition there is found a small quantity of albumen (0·2 per cent.) which when treated with a few drops of nitric acid gives a very slight cloud. An excess of albumen in the author's opinion would seem to constitute the best sign in making a correct diagnosis and prognosis of meningitis. Of four of his cases, which presented the same clinical symptoms, three died and the fourth made a good recovery. In the former the increase of albumen in the cerebro-spinal fluid was intense and progressive, while in the latter the cytologic and albuminous reactions were normal. An excess of albumen is to be considered indicative of intense inflammation of the cerebral meninges and of grave import, but if in spite of alarming clinical signs no more than the normal quantity of albumen is found, a favourable prognosis may be entertained. Heretofore, before lumbar puncture was practised and the value of its cytology in the diagnosis of meningitis was recognised, many cases were labelled meningitis in which similar clinical signs were of reflex, vermicular, or hysterical origin. Lumbar puncture and examination of the cerebro-spinal fluid as regards both the cells and the quantity of albumen present should be made whenever a child presents any signs of meningeal inflammation.

T. R. Whipham.

Tetany, an intoxication by lime salts (*'La Presse Méd.,'* 1906, *No.* 67, *p.* 536).—**R. Romme** calls attention to the fact noticed by Finkelstein that in children attacked by this complaint a simple purgative and a diluted diet are sufficient to cause disappearance of the symptoms; farinaceous broths prepared without milk acted in the same manner. If, on the other hand, cow's milk be given to children thus cured, hyperexcitability of the peripheral nerves and contractures, with or without glottic spasm, soon reappear. Finkelstein found that neither the casein, fat, or sugar of the milk had any influence on the tetany, but that whey produced the symptoms rapidly; he therefore was of opinion that the phosphorus or the lime of the milk was the active agent. **Stoeltzner** has lately reinvestigated the subject ('*Jahrb. f. Kinderheilk.*,' 1906, *vol.* XIII, *p.* 661) and administered in a pharmaceutical form the salts obtained from the lacto-serum. The experiments showed phosphate of soda, lactate of iron, acetate of potash, chloride of sodium, and magnesia had none of them any effect in reproducing the symptoms of tetany, but a small quantity of lime salts was sufficient sometimes even to produce spasm of the glottis. Stoeltzner observes that with regard to lime salts the intestinal mucous membrane exercises the double function of absorption and elimination. Cow's milk contains five times as much lime as human milk, and hence the intestinal mucous membrane of an infant on the bottle is subject to an excessive strain as an eliminator of lime salts. If, as is often the case, such an infant becomes rachitic, he not only does not utilise the absorbed lime, but the decalcification of his bones causes a further quantity of lime to pass through the intestinal mucous membrane. Under these conditions the intestine becomes functionally insufficient as an eliminator, and retention of lime salts results. This explains why tetany is so rare in breast-fed infants and why it occurs in families. The theory is also borne out by this physiological fact: a frog's muscle in normal saline solution loses its electrical excitability after two hours. If ·002 per cent. of $CaCl_2$ is now added to the solution, the excitability reappears in about five minutes. VINCENT DICKINSON.

The etiology of infantile tuberculosis ('*La Presse Méd.*,' *November*, 1906, *No.* 94, *p.* 765).—**M. J. Comby**, of the Children's Hospital, Paris, reviewing the experiments of Calmette and others who produced tubercular lesions of the peri-bronchial glands by giving bacilliferous food to young calves and goats, is of opinion that family human contagion plays an enormous part in the propagation of infantile tuberculosis and that infection by milk, etc., is negligible. He admits the possibility of a contamination by the raw milk of cows in an advanced stage of tuberculosis, but considers it infinitely rare in comparison with that from tubercular sputum, instances of which are innumerable. The dogma of human contagion once accepted, the mode of entrance is of little import. Let it be admitted that the bacilli are swallowed with the saliva and with the food, which serve as vehicles, but it must also be recognised that these bacilli come from the surroundings of the child, and not from a source far off, unknown and difficult to deal with. If tuberculosis in infants resulted in any appreciable degree from the tuberculosis of cows, it should have diminished as diarrhœa has by the process of sterilising the milk. It seems, however, to have increased. Fifty years ago Barthez and Rilliet, in the autopsies at the Children's Hospital, found thirty-three tuberculous in every hundred children. The author in the last ten years found 38·51 per cent. In infants alone, under three months, 1·93 per cent. were tubercular, between three and six months 16 per cent., between six and twelve months 26 per cent., between one and two years 43 per cent., between two and ten years 67 per cent., between ten and fifteen years 64 per cent.

A comparison of these figures favours the idea of human family contagion; the further the child is from the cradle—that is, from the relative isolation of the first year—the more he is exposed to tubercular contagion. If milk were the principal cause of infantile tuberculosis, the highest percentage of the tuberculous would be during the milk-feeding period, but it is then lowest. Under the age of three months the author found only three cases of tuberculosis; there was family contagion in all and the youngest was bottle-fed by a phthisical mother. The improvement noticed in children removed to the country and fed largely on milk points to the same conclusion; and prophylaxis should not be directed to cows, whose milk presents little danger, but to the phthisical, who directly infect the children in their surroundings.

VINCENT DICKINSON.

On the intestinal origin of pneumonia and other lung infections ('*La Presse Médicale, Sept.*, 1906, *No.* 70, *p.* 559).—**Calmette, Vansteenberghe,** and **Grysez,** who have recently published their views on the intestinal origin of pulmonary tuberculosis ('Ann. de l'Inst. Pasteur,' Oct., 1905, and May, 1906) have endeavoured to produce pneumonia experimentally by introducing the pneumococci into the intestine. They considered it possible that when thus introduced it would overcome the epithelial barrier of the intestine as do tubercle bacilli and coloured powders. If this were true, it would explain how in certain conditions this microbe, which is found normally in the mouths of many subjects, passes into the intestine with the saliva and thence by the lymphatic circulation into the lung. Cultures of pneumococci in broth-serum were introduced by an œsophageal sound into the stomachs of guinea-pigs and rabbits, and at the end of twenty-four hours both lungs were found intensely congested and containing pneumococci in abundance, but in no case were the characteristic lesions of lobar pneumonia in man observed. It is probable that normally the microbes following this track from the intestine to the lungs are destroyed by the polynuclear leucocytes and by the bactericidal action of the lymph, but when these actions are impeded by different influences (cold, exhaustion, and concomitant infection) the pneumococci carried as far as the pulmonary capillaries there cause the formation of foci of lobar pneumonia. The authors, further, are of opinion that the majority of lung diseases (capillary bronchitis and bronchopneumonia, etc.), which are observed with great frequency in children, are accounted for by the same process. They have, in fact, very frequently noticed that the passage of ordinary bacteria through the intestine takes place with extreme facility in young children and in young animals until they become automatically vaccinated against these bacteria. As their lymphatic system is not capable of protecting them efficaciously they react more or less strongly to these intestinal infections and this reaction is accompanied by febrile attacks. This explains why young children and animals so often present great irregularities of temperature.

VINCENT DICKINSON.

The intestinal origin of tuberculous bronchial glands ('*La Presse Méd.*,' 1906, *No.* 42).—**Calmette, Guerin,** and **Delearde** made some experiments on calves and young goats by causing them to eat small quantities of tubercle bacilli, the result of which was enlargement of the tracheo-bronchial glands, but no specific lesion of the mesenteric glands, although these latter produced tuberculosis when inoculated into guinea-pigs. They found also that inoculation with the mesenteric glands of children suffering from tracheo-bronchial adenopathy produced the same result. Also in three children in whom the existence of tubercle bacilli was not suspected tubercle bacilli were found in the mesenteric glands, and inoculation into guinea-pigs gave a positive result. The conclusions arrived at by the authors are: (1) that experimentally in animals and clinically in children, whenever tubercular infection takes the form of tracheo-bronchial adenopathy, tubercle bacilli exist in the mesenteric glands even when they appear healthy; (2) that since mesenteric gland infection precedes the tracheo-bronchial adenopathy, these lesions must be considered the result of a tubercular infection of intestinal origin, as also must pulmonary tuberculosis, both of children and adults; (3) that since experiments have not definitely proved direct contagion by the respiratory track, it is much more probable that children and adults contract tuberculosis by swallowing the milk of tuberculous cows, or dust and food contaminated with bacilli, or particles of tubercular sputum of human origin. VINCENT DICKINSON.

Etiology of glandular fever ('*Maryland Med. Journ.*,' *October*, 1906).—**Marshal** states that this disease is most commonly met with in children between the ages of two and eight years, but infants may be affected. Males and females are equally liable to it. Malnutrition, previous disease, and exposure to cold are predisposing factors. Most cases occur during the first three months of the year. The disease is infectious, and household epidemics are frequent. Adenoids or enlarged tonsils are present in nearly every case. The bacteriology has not been thoroughly worked out. Streptococci have in some cases been found to be the infecting organism. In one case, which, however, was not quite typical, the *Staphylococcus aureus* was found. There is a general impression that the influenza bacillus and the pneumococcus are the usual causes of the disease because epidemics of influenza and pneumonia are so frequently accompanied by glandular fever. Various organisms, including the streptococcus, staphylococcus, influenza bacillus and pneumococcus, have been recorded from the throats of patients suffering from glandular fever. The primary focus may be the naso-pharynx, or in other cases the pharynx or tonsils. From this focus, which is usually small, the infection travels to the cervical glands. The inflammation of the glands is mild, the swelling being greater than would be expected from the general condition. There are all grades of severity, however, and even suppuration may occur in some cases. In most cases only the cervical glands are involved, but in a fair proportion of cases the axillary, inguinal, and mesenteric glands are affected, while the liver and spleen are also enlarged. The blood changes in this disease have not yet been fully studied. JAMES BURNET (Edinburgh).

Interstitial nephritis and cirrhosis of the suprarenal capsules in an infant aged 5 weeks ('*Lancet*,' *Nov.* 3, 1906).—**George Carpenter** reports the interesting case of an infant aged 5 weeks, "healthy and well nourished" at birth. At about the tenth day he "began to pine." He was breast-fed, and an eight months child. A brother had died of "eczema." He was admitted to hospital suffering from "diarrhœa and vomiting." The stools were green and contained curds, and in one there was a small amount of blood. Prior to admission there was a history of passing blood by the bowel, and also of blood issuing from the penis. The face was puffy, while the back was very œdematous: so also were the hands and feet. The upper extremities were œdematous as far as the shoulders and the lower limbs as far as the trunk. The abdomen was much distended with flatus, and there was also some free fluid present. A systolic bruit was audible over the left base of the heart. The urine was albuminous. He died five days later. At the autopsy made on the same day a condition of mixed broncho-pneumonia and of collapse was found down the back of the right lung. Four and a half ounces of clear fluid came away on opening the abdomen. The peritoneum was shiny, and at parts suggested chronic peritonitis. There were many adhesions between the liver and the abdominal wall. The spleen was twice the normal size. The kidneys were normal to the naked eye, but on microscopical examination showed thickened capsule, interstitial changes indicating chronic inflammation, atrophy of the glomeruli, shedding and necrosis of the tubular epithelium. The changes were most marked in the cortex, and here some thickening of the small arteries was detected. The suprarenal capsules were both adherent to the kidneys, and they were enlarged and of an opaque, yellowish-white colour. Sections of the right kidney showed what appeared to be an old hæmorrhage. The liver showed microscopically large numbers of lymphocytes and other leucocytes in the veins, not in the arteries, and also in the capillaries. The pancreas was normal. The brain was not examined. There were neither history nor stigmata of syphilis in the infant, but the lesions discovered post mortem were doubtless of that nature, and most probably of extra-uterine origin. This is the first instance of cirrhosis of the suprarenal capsules that has been recorded. Dr. Carpenter concludes by pointing out the importance of not passing the kidneys as healthy on the evidence of a macroscopical examination alone.

James Burnet (Edinburgh).

Sarcoma in children (*'Journ. de Méd. de Bordeaux,' Oct.*, 1906).—**E. Petit.**—Different observers have spoken of the frequency of sarcoma in children, but their results differ one from the other. A study of ten years' statistics of the Hospital for Children at Bordeaux embracing 5329 cases shows 31 suffering from sarcoma, or a percentage of 0·58. This is much more frequent than has been generally supposed. The percentage of tuberculosis during the same period is 13·43, of which 0·43 was abdominal tuberculosis. During the same time there were 21 cases of benign tumour. Sarcomata occurred chiefly from 5 to 15 years of age, there being 19 cases between these years, 11 cases from $1\frac{1}{2}$ to 5 years, and 1 case under $1\frac{1}{2}$ years old. Twenty-one cases occurred in boys, so they are nearly three times as frequent in boys as girls. The seats of the growths were as follows: jaws 8, bones of the limbs 6, eyeball 5, kidneys 4, face 3. The effect of operation is —15 cases cured, 7 died. Of 6 cases not operated on all died.

J. Porter Parkinson.

Serum agglutination in mumps (*Soc. de Biol., May* 19, 1906, *'Arch. Gén. de Méd.,' tome* cxcvii, *p.* 1404).—**P. Teissier** and **C. Esmein** have tested the blood of twelve cases of mumps with a view to testing its agglutinating power on the micrococcus they have previously described. Control tubes were, of course, employed. A positive reaction at dilutions varying from 1 in 50 to 1 in 300 was obtained in eleven out of the twelve cases. No agglutination was obtained with the blood of a number of other patients with various diseases, except with that of a typhoid patient, which gave a positive reaction at 1 in 25.

Ernest Jones.

Therapeutics.

Prophylactic injection of diphtheria antitoxin (*'Jahrb. f. Kinderheilk.,' September* 4, 1906.)—**Sittler.**—From March, 1905, to March, 1906, 912 cases at the children's hospital at Strasburg received a prophylactic injection of 500 units each of diphtheria antitoxin; 700 of these were healthy children, being the brothers or sisters of 378 diphtheria patients; 212 were scarlet fever patients, who were in the same block as, but in a different ward from, the diphtheria patients. Of the 700 cases four contracted diphtheria, sixteen hours, thirteen days, five weeks, and six weeks respectively after injection. Of the 212 cases only one developed diphtheria, three days after injection. The case was a mild one, the membrane disappearing after a further dose of 1000 units. Serum urticaria occurred in only two cases, a morbilliform rash in one case, and a local scarlatiniform rash in two cases.

J. D. Rolleston.

Treatment of diphtheria with formic acid (*'Edin. Med. Journ.,' October*, 1906).—**Croom** was induced to use formic acid in diphtheria as a general tonic owing to the fact that the formates take effect without having marked action on the blood-pressure. The usual antitoxin treatment was carried out, but in addition 5 to 20 min. of a 25 per cent. solution of formic acid was given every four hours for ten to fourteen days, and 5 to 10 min. three times a day for the next fortnight. Comparing 100 cases so treated with 300 in which formic acid was not used, he found that death from cardiac failure was reduced from 8·6 to 2 per cent. and paralysis from 14 to 3 per cent., and that albuminuria was much less common.

T. R. Whipham.

Contribution to the study of pathogenesis, clinical forms and serum-therapy of bacillary dysentery in children (*'Gaz. Hebd. des Sci. Med.,' Oct.*, 1906).—**Campana** in the study of 90 cases; in 33 of these bacilli of dysentery were found, and 38 had a distinctly positive serum reaction. The bacilli isolated were (1) the type of Chantemesse, Widal, and Shiga, (2) the Flexner type, (3) the type of Strong. In twenty-four or forty-eight hours in cases treated by serum alone the stools became more natural, pain lessened, and the general condition improved. The contagion of this disease appears to resemble that of diphtheria in the length of time it may remain dormant before it produces the disease.

J. Porter Parkinson.

Acute osteomyelitis with multiple foci (*'Gaz. Hebd. des Sci. Med.,' Oct.*, 1906).—**L. Rocher** relates the case of a girl, aged 10 years, who on March 27 was seized with headache and vomiting and next day had pain and swelling in the left leg and thigh; on April 1 she had pain at the base of the thorax on the right side and in the arms and legs. The temperature rose to 40·2 C. and the patient became delirious. By April 5 there was great swelling of the lower two thirds of the left thigh, with fluctuation, and similar swellings in the right submaxillary region, and over the ninth rib in the axillary line, and over the right external malleolus. These were incised, washed out with oxygenised water, and drained; but in spite of treatment the fever continued high and the delirium persisted, and the child died eight days after the beginning of the illness. The organism was the streptococcus in pure culture, and it appeared to be a case of multiple primary foci, and not of successive infection. J. PORTER PARKINSON.

Hot intestinal injections in the entero-colitis of early infancy (*'La Clin. Infant.,' Aug.*, 1906, *No.* 15, *p.* 475).—**Caravassili** of Athens presented an interesting communication on this subject at the Congress at Lisbon. Hot intestinal injections (40° —42° C.) act upon the local phenomena of entero-colitis more efficaciously than warm injections and other local therapeutic means. Colic and spasm become less and sometimes cease suddenly after a hot injection, and do not reappear for four or nine hours, and then generally less acutely. The characteristic stools become quickly normal and the number of evacuations sensibly diminish after each injection. The number of lavages only amount to three to six for the entire duration of the attack. The warmth of the fluid acts beneficially against intestinal hæmorrhage. The duration of the illness is diminished by three to eight days. Children do not object to this temperature, and sleep quietly after the lavage and sometimes during the operation. VINCENT DICKINSON.

Injections of isotonic sea-water (Plasma de Quinton) in the hæmophilia of infants (*'La Presse Médicale,' Sept.*, 1906, *p.* 614).—**Pelissard** and **Benhamon** had a case of this rare and fatal disease in infants which they treated by this method. The child, a male, weighing 3 kil. 850 at birth, was noticed to have discharge of blood from scratches on the skin, from the nose and ears, and was stated to have passed black stools. After trying tampons soaked in 1 per cent. antipyrine solution, oxygenated water, and gelatine serum without benefit, the authors injected on Prof. Rouvier's advice 10 c.c. of Quinton's plasma into the scapular region, and had the satisfaction of seeing the flow of blood cease entirely after three hours. The hæmorrhage did not recur, but for prudence another injection was given three days later, and a last one eight days later. Quinton and others have insisted on the efficacy of subcutaneous injections of isotonic sea-water in infantile therapeutics, and their superiority over injections of artificial serum (Congr. de Climat., April, 1905; L'Obstetrique, Sept., 1905; and Soc. d'Obstet., etc., Nov. 1905). According to these authors the loss of weight rapidly ceases, the phenomena of gastritis, enteritis, icterus, marasmus, and asthenia diminish in the space of forty-eight hours. They consider a new application has been found for these injections in the hæmorrhages of the new-born infant.

VINCENT DICKINSON.

Treatment of sudoral eruptions (*'La Clin. Infant.,' Aug.*, 1906, *No.* 16, *p.* 512).—These eruptions are usually found in babies as erythematous patches on the trunk, more discrete on the face and limbs. When very intense they resemble scarlatina and eruptions of digestive origin. They are nearly always caused by too warm woollen garments, and are much more common in the summer, especially in children of the poor swathed in thick napkins. Treatment consists in light clothing, in giving every day a bath at 35° C. containing 250 grammes of starch, and in the use, morning and evening, of this powder:

Venetian talc	50 grammes.
Subnitrate of bismuth	10 ,,
Oxide of zinc	30 ,,

VINCENT DICKINSON.

The arsenical treatment of chorea (*'Gaz. des Hôp.,' June* 2, 1906, *p.* 747).—**Porot** reviews this subject. He acknowledges that in spite of the large number of drugs that have been tried in chorea there is none the value of which is great. After a temporary lapse in favour of antipyrine the profession seem to be settling on the old treatment with arsenic. This is largely owing to the improvements in the methods of its administration. In order have been developed—(1) Fowler's solution, arsenite of potassium of such a strength as to contain half a milligramme of arsenious acid in a drop. As good results are obtainable only with large doses the risks of this medicament are very serious. (2) Arsenate of sodium. (3) Boudin's liquor. One gramme of this aqueous solution contains a milligramme of arsenious acid. Marfan and Comby have strongly recommended this, but find it is efficacious only in large doses. Serious complications such as nephritis, enteritis, anæmia, paralyses, eruptions, etc., have often followed its use. (4) Cacodylate of sodium, best given hypodermically in a strength of 3 per cent. Weill has reported a case of neuritis from its use. Eruptions may occur, but rarely, as is the case with other complications. (5) Arrhenal (methyarsenate of sodium) has the advantage over the last of causing no digestive disturbance. (6) Arsenical butter. Weil claims that this is the most advantageous method of giving arsenic, but it has not been tried very extensively as yet. The technique is described. Ernest Jones.

Surgery.

Chronic tuberculosis of joints (*'Therapeutic Gazette,' October* 15, 1906).—**Rugh**, in a paper on this subject, lays stress on the following facts: The disease is essentially one of childhood, males being affected slightly more often than females. Though a history of heredity can be obtained in about 70 per cent. of cases, much more important is the history of a slight injury received some days or weeks previous to the onset of the symptoms. The disease for a long time, and most frequently always, is monarticular. Should a second focus appear it is much more likely to occur in a joint remote from that originally attacked than in the corresponding one; in this way the affection differs from rheumatism. Pain is not a marked symptom and may be referred to the periphery of the nerves which are in closest relation to the area of the disease. If the affected joint be a superficial one, even though the process be universal, tenderness will be found located at one or two definite spots, and not diffused as in all other joint conditions. If these spots are opened early, the entire focus may often be removed. The author strongly condemns the use of any force, such as jarring the joint, in the process of examination, as there is great danger of causing irreparable injury. Anæsthesia likewise is unnecessary and may prove harmful. A diagnosis must be made from rheumatism, "growing pains" due to a temporary hyperæmia of the epiphyses, occasioned by very rapid growth and too violent exercise, and in the case of the hip-joint in nervous and excitable children from a long and adherent prepuce, or adhesions between the hood and clitoris: in the last named cases the pain is generally first in one hip and then in the other. T. R. Whipham.

Delayed chloroform poisoning (*'Lancet,' Nov.* 17, 1906).—**Telford** and

Falconer have made a valuable contribution to the literature of this subject from observations recorded at the Manchester Children's Hospital. They conclude that (1) chloroform, ether, and ethyl chloride may produce a temporary aciduria; (2) so far as is shown by the ordinary routine clinical tests this aciduria occurs not invariably but in the vast majority of cases; (3) ethyl chloride, either when given alone or when used as an introduction to chloroform, does not appear to differ from other anæsthetics as regards the post-anæsthetic aciduria; (4) there is no relation between the duration of the aciduria and the length of time during which the anæsthetic is administered; (5) the acid bodies occur frequently in the urine of patients in apparently normal health, and general anæsthesia appears to have no special prejudicial action in these cases; and (6) the change of diet involved in preparation for a surgical procedure does not appear to produce aciduria.

James Burnet (Edinburgh).

Cure of a case of tubercular swelling in the tibio-tarsal region by the method of Bier (*'L'Echo Méd. du Nord,' Oct.*, 1906).—**H. Gaudier.** —The boy, aged 12 years, began to limp two years previously, and had pain in the left tibio-tarsal region, with swelling over the tendon sheathes; a fistula appeared above the ankle-joint, just in front of the external malleolus. There was abundant suppuration with fungous granulations at the orifices of this and another fistula which appeared. The foot was rigidly extended on the leg, and the least touch was painful. At this stage the bands of indiarubber as recommended by Bier were applied over the sound skin on the proximal side of the disease, at first for an hour daily, and gradually increasing the time till they were applied for twenty-three hours daily. At first the foot became more swollen and appeared worse. After three months' treatment there was considerable diminution in the swelling of the tendon sheaths, and in another three months the fistula had closed and apparently the disease was perfectly arrested and cured. This is only one of many similar cases the author has had, and he considers the treatment of great value.

J. Porter Parkinson.

Gonorrhœal infection in children (*'The Australasian Med. Gaz.,' Sept.* 20, 1906).—**W. I. Plomley** reports that during 1904 and 1905 out of fifty-eight children aged from 12 months to 12 years who came with a complaint of a discharge the gonococcus was found in forty-two. Out of this number thirty-six were girls and six were boys. In seven cases the source of infection was traced; in none was there any evidence of the child having been tampered with. There were three cases of ophthalmia and one of cystitis in a girl. In the girls the disease was, in nearly all cases, limited to the vagina.

M. D. Eder.

Oral sepsis in operations on the throat (*'Brit. Med. Journ.,' Oct.* 20, 1906). —**Wyatt Wingrave** points out the great importance of, as far as possible, cleansing the mouth and fauces before operation upon tonsils or adenoids. If the teeth are decayed a thorough treatment at the hands of the dentist is indispensable, for no case should be operated upon at any age when suffering from carious teeth. In young children gargles are out of the question; therefore swabbing, irrigation, or direct application by sucking the different drugs must be resorted to. Lysoform (½ per cent.) is especially advocated, but the best all-round method of cleansing the mouth in infants is by a tablet of formamint, crushed and carefully enclosed in a piece of butter-cloth. This is moistened and placed in the patient's mouth for a few minutes several times in the day. It readily dissolves, has a pleasant taste and is non-poisonous, and yet most effectively controls bacterial growth. In addition the following are advocated as useful drugs to be used in cleansing the mouth before and after operations: permanganate of zinc for daily use as a douche, sulphurous acid and Liquor sodæ chlorinatæ in cases requiring a special preliminary swabbing and douching, and salicylic acid dissolved in borax when there is much epithelial accumulation. P. LOCKHART MUMMERY.

Open safety-pin swallowed by an infant six weeks old; recovery ('*Med. Record,*' *March* 10, 1906).—**Van D. Hedges.**—An open safety-pin fell into the child's mouth and was swallowed. An X-ray examination immediately after the accident revealed the pin in the child's stomach. On the fifth day the X rays showed the pin lower down in the descending colon, and on the sixth day it was passed in a fæcal mass.

P. LOCKHART MUMMERY.

Mastoiditis in infants ('*Med. Record,*' *March* 10, 1906).—**Seymour Oppenheimer**, New York, in discussing the frequency of this affection, quotes Barth, who has shown that out of 600 hospital children examined 40 per cent. had aural lesions. Hartman, in the examination post mortem of the temporal bones of 108 atrophic infants dying of gastro-intestinal disease, found 85 in which the mastoid antrum was filled with muco-pus and bacteria. Similarly Preysing, quoted by Oppenheimer, finds 81 per cent. Among the important anatomical features of the mastoid antrum and tympanum in infants the close connection between the auditory apparatus and the cranial contents merits special attention. The tegmum is often incomplete, so that vascular channels are brought into direct communication between it and the cranial contents, this being further enhanced by the sutures being still incompletely united. Mastoiditis in infants often progresses to a serious extent without causing any external symptoms of auditory suppuration, and it is important to recognise the fact that symptoms of cranial sepsis may occur before there is any evidence of gross mastoid changes. The absence of prominent symptoms when the antrum is filled with pus may easily give rise to serious diagnostic difficulties, and it is well to remember this when a child continues to have a temperature and remains ill after a recent attack of gastro-enteritis has apparently passed off. The author believes that many deaths in infants ascribed to other causes result from a purulent inflammation of the mastoid antrum. The difficulties of diagnosing the affection in infants are considerable; often the sole evidences of the ear affection must be gained from a careful study of the child for several days. Torticollis in infants is very suggestive, as is also loss of weight without apparent cause. The presence of a purulent collection behind the ear is much more frequent in infants than in adults on account of the aural conditions not being as promptly recognised in the former. Pseudomeningeal symptoms or meningismus is frequently seen associated with mastoiditis in infants, and it adds a conflicting factor to the recognition of the aural trouble. P. LOCKHART MUMMERY.

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Original Articles.

THE PROTECTION OF RHEUMATIC CHILDREN.*

By C. O. Hawthorne, M.D., M.R.C.P.

The note which I now submit to the Society concerns itself with this essentially practical question, Can anything be done to prevent or limit the occurrence of cardiac disease in children who are known to be liable to such disease as the result of a rheumatic proclivity or inheritance ? In a Society specially concerned with the clinical and pathological misfortunes of childhood it needs no presentation of figures to secure a recognition of the appalling frequency with which valvular, and other forms of organic heart disease, find their victims among those of tender years. The repetition of such a discovery in the individual patient is a constantly recurring experience, and this, in private practice, not less than in the out-patient departments and wards of our children's hospitals. Nor is it necessary to picture the consequences which attend this grave disease. A life of limited activity and diminished usefulness is the least of its almost inevitable penalties. Further, the acuteness and pathos of the situation are frequently heightened by the statement, often conveying a note of protest, that the child's life-history has been almost, or altogether free from any incident calculated to awaken suspicion in the minds of the parents that serious mischief was afoot. Some relatively slight febrile illness, or a local disturbance of apparently trivial import, may be admitted, but surely these, it is urged, cannot have meant something so serious as the risk of organic heart disease. Such is the argument that not unnaturally seems valid to the general public, to whom the rheumatism, which means the risk of heart disease, is a more or less acute illness accompanied by pain and swelling of the joints. The medical profession, however, is compelled to an entirely different verdict, namely, that irreparable damage is frequently inflicted on the cardiac tissues by the rheumatic poison, almost or altogether apart from incidents popularly recognised as rheumatic. Can anything be done to save or modify so disastrous a situation? Now, thanks to the teaching more particularly of the last twenty-five years or so, the profession generally has come to recognise that rheumatism in childhood presents a much more varied symptomatology than does the same disease in adults. While shutting out from the category of rheumatism many joint conditions which were formerly so labelled, medical opinion in modern days has extended the borders of the disease so as to include a number of events, the rheumatic origin and nature of which were previously unsuspected. And it is in the early years of life more especially that these events occur. Chorea, erythema, tonsillitis, some forms of pleurisy, subcutaneous nodules, slight pains in the joints or other parts, not to mention more dubious occurrences, are all, to the medical judgment—at least, in frequent instances—manifestations of the same disease which appears in adults as, for the most part, an acute polyarthritis. And certainly with these forms of rheumatism there is not less, probably indeed much more than with the rheumatic fever of the adult, a definite risk of cardiac disease. In brief, the general attitude of professional opinion towards rheumatism is, that in the adult the disease expresses itself largely as an acute polyarthritis, whilst in the child it occurs mainly in non-arthritic forms; and that with each and all of these, and more especially with the non-arthritic manifestations, rheumatic heart disease is a possible incident. Now this disproportionate frequency of heart disease in rheumatic children, as compared with adults suffering from the influence of the same poison, may reasonably be regarded as associated with a difference which obtains between the two contrasted conditions in relation to the practice of rest. Everyone admits that, in the present state of our knowledge, it is to early, to complete, and to sustained rest we have to look as the most efficient means of preventing the development of cardiac complications in the course of a rheumatic attack. Such a discipline in the actively rheumatic adult is imposed, almost inevitably, by the severity and site of the pain. The patient is driven to bed, and to remain there, because the condition of his joints leaves him no option. But the rheumatic child, even during an active phase of his disease, often suffers little or no pain, and thus circumstances permit him to escape the rest which an acute polyarthritis invariably demands. Is it not probable that in this difference is to be found, at least in a large degree, an explanation of the relative frequency of heart disease in early life? Let this be granted, and it at once becomes obvious that the protection of these children can only be accomplished by the provision of an arrangement which will secure for them not less than the same measure of rest which the disease itself compels in the acute polyarthritis of the adult. But no such end is possible so long as the public is unaware of the fact that rheumatism in the child is often, or even usually, a disease which avoids the joints, and occurs mainly in the shape of various nonarthritic disturbances that, to the uninstructed, often appear altogether trivial and unimportant. If the protective influence of rest is to be obtained during such disturbances, the parents or guardians of rheumatic children must be made aware of their true nature, and of the serious risk in the shape of heart disease which they carry. In other words, the public, or at least those members of the public who are responsible for the care of children having a rheumatic inheritance, must be educated to appreciate the clinical characters which rheumatism assumes in childhood, the special danger to the heart which these involve, and the urgent necessity for early, complete, and prolonged rest if such danger is to be avoided or minimised. Until this position is attained these unfortunate children will continue to be deprived of the one influence by which, possibly, they may be saved from supreme disaster. But such a position cannot be attained without the direct and active intervention of the medical profession, with whom rests both knowledge and opportunity. With them also, therefore, rests responsibility. If all this is true, it follows that the discovery of rheumatic manifestations in any patient demands from the medical practitioner immediately concerned the discharge of a much wider responsibility than the care of the individual sufferer. And particularly does this responsibility extend to those members of the family in whom, on account of their age, rheumatism is prone to occur in its more subtle, and therefore, as far as the heart is concerned, its more dangerous forms. To put the position in specific terms, the discovery of signs or evidences of rheumatic disease in any family ought to be the occasion, as an imperative professional duty, to convey to the parents information and warning of the special risks which even the apparently slight illnesses of their children may involve, and of the importance of complete rest as a means of avoiding these risks. Let this be done regularly and systematically by every member of the profession on the first discovery in any family of signs of a rheumatic inheritance, and there will be some chance of gaining for young children the protective influence of rest during these apparently slight, but essentially dangerous manifestations of rheumatism which are common in early life. And with this it is reasonable to believe there would be some, and possibly a considerable diminution in the incidence of organic heart disease in early life. What the future may have in the shape of prophylaxis or treatment we do not know. At present the one influence upon which we depend for the prevention of heart disease in rheumatism is absolute rest so long as the rheumatic poison shows signs of activity. The benefit of that influence ought to be secured for rheumatic children. But it can only be secured by the deliberate adoption by the entire body of the profession of the policy here advocated. This policy ought, therefore, to be accepted as an imperative command and universal obligation—the one opportunity which exists, amidst our present ignorance, of protecting rheumatic children from the profound misfortune of organic cardiac disease.

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* Read before the Society for the Study of Disease in Children, January the 18th, 1907.

THE ANCIENT AND MODERN METHODS OF TREATING INFANTILE DIARRHŒA—A COMPARISON.

By W. Lauzun-Brown, L.R.C.P., L.R.C.S.Edin.,

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Historical Sketch.

Sketch of the early treatment of infantile diarrhœa.—The widespread and dangerous nature of infantile diarrhœa during the hot months of the year in this country and its ravages abroad, the rapidity with which it supervenes and carries off the individual, and its frequent epidemic proportions, account for different methods of treatment with which it has been attempted to deal with the disease. It is no new complaint. Hippocrates alludes to patients who were affected with bowel complaints, termed by his translators "spleneties, iliac passion and dysentery," and "abounding in the autumn." In Egypt the disease was well known before Abraham visited Pharoah. It was there treated with lactated milk, by the administration of olive oil internally and externally. In ancient China dried blood of certain animals was a marketable article, specially advised in "flux of the belly."

The embodiment of the medical knowledge of the ancient Romans was Pliny. His description of the disease is given in quaint language by Dr. Holland, his English translator. "Touching the paunch or belly," says he, "much ado there is with it, and although most men care for nothing else in this life but to content and please the belly, yet of all parts it putteth them to the most trouble. For one while it is costive, as that it will give no passage to the meat, another while so slipperie as it will keep none of it. One time you will have it so peevish as that it can receive no food, and another time so weak and feeble that it is able to make no concoction of it." His digestive adjuvants consisted of "the inner coating of the gizzard of the hen," which was held "singular for catarrhs that fall into the belly."

Eliminatives or astringents discussed.—Whether eliminatives or astringents should be used in the treatment of diarrhœa was a question much discussed in the time of Rhazes, the Arabian scholar and author (832–923 A.D.). Rhazes describes a form of infantile diarrhœa due to "the corruption of milk from bilious humours (cholera)," and points out that "the sign of the choler is found in the stools being acrid and sharp"—a form which he said caused death very rapidly. It was treated by combining the seeds of sorrel with violets mixed with the white of egg, and with the seeds of white poppy to form a kind of astringent. For Rhazes held that "if the belly be lax give nothing laxative, for anything that increases the discharge is not safe in these distempers. Order the patient to drink barley-gruel in pomegranite seeds. If this is not sufficient add gum-arabic and sugar. In continued looseness administer draughts of Al-raib (sour milk), with some rusks and a little gum-arabic."

No other good descriptions of disease are met with until Willis and Sydenham wrote their works (1624–1626). Sydenham notes that cholera morbus appears at any time of the year. He says: "there is a sort of cholera morbus exceedingly fatal to infants. It arises either from over-feeding or from teething. Here their tender age forbids the use of free diluent drinks, and still more the disturbance of the humours that would be affected by cathersis, hence the cure must be attempted by laudanum alone, *i.e.* with two, three, four, or more drops according to the age of the child, taken out of a teaspoonful of small beer, or some other proper liquor, and repeated as the case required." He also advised diluent drinks of chicken broth.

How its causation was regarded in the seventeenth century.—Robert Pemmell, "practitioner in physic, Cranebrook, Kent," a lucid English writer of the seventeenth century, regarded the disease as being due to bad milk or improper nourishment. His favourite remedy was the yolk of an egg roasted, administered with carminative and astringent seeds, made into a powder with some white poppy seeds. He advised wine baths and bread poultices in order to determine the circulation toward the periphery. While under this treatment all milk was stopped, "lest it curdle in the stomach."

Sylvius, of Leiden, wrote a work 'Of Children's Diseases given in a Familiar Style for Weaker Capacities' (1682), in which he sets forth "acid humours" as the cause of the ailment. In treatment Sylvius lays great stress on "things that gently make drowsy, such as syrup of white poppies and a little laudanum," continuing that "If the pain be very great you may safely add one grain of laudanum to three or four of the mixture, a little spoonful given to the child often, till his pain and crying abate and he takes rest."

The Leiden professor describes infantile diarrhœa under the title of "A Green Purging with Sour Savour accompanied with Gripes," and says "this noted green purging proceeds from choler and such like changes as are not unknown to dyers." He is concerned to find out why this disease is not always accompanied by griping, and explains the painless cases by alleging that "the guts are plastered inside with rough phlegm and therefore the sour humour cannot fret and bite them." Reasoning in a somewhat similar way some modern practitioners administer salad oil in infantile diarrhœa (p. 96).

Varied nomenclature.—Leaving the era of "humoral" medicine the beginning of the eighteenth century brings us to the first complete account of infantile diarrhœa. Prior to this the malady was described under all sorts of names—"flux," "softening of the belly," "iliac passion," and "cholera morbus." In some of the mortality bills of London deaths from this cause are included under the title "griping of the guts," subsequently confounded with infantile diarrhœa. In Scotland it has been called "wame ill," and the "belly hives." In Germany it has received the name "kinder cholera," and "acuten brechdurchfall." In France "cholerin," "choleriform diarrhœa." In America it has been called "bilious diarrhœa" of infants, "summer diarrhœa," "autumn diarrhœa," and in the Southern States "diseases of the season," "summer complaint," "April and May disease."

Benjamin Rush's views and methods.—Dr. Benjamin Rush, professor of chemistry in the University of Pennsylvania, was the first to fully describe and name infantile cholera or cholera infantum in the year 1773. In this work Dr. Rush observes the frequency and danger of the disease to be in proportion to the heat of the weather, and that children from the first or second week of their birth till they are two years old are the favourite objects of its attack. He devotes two pages of his book to mentioning the remedies he employs, placing great stress on the uses of the warm bath in cases of obstinate pain, and adds that the bath is more effectual if warm wine is used than with warm water. He recommends: (1) Evacuation of the belly and stomach by tartar emetic and ipecacuhana: (2) where the purging is too violent he uses a few drops of laudanum, peppermint and cinnamon-water; (3) demulcent and diluent drinks; (4) clysters of flaxseed tea; (5) plasters of Venice turpentine; (6) the administration of cordial medicines.

MODERN PROPHYLAXIS.

Prophylaxis.—In the methods of the ancient doctors there is the shadow of the modern *rationale*. Not until the time of Benjamin Rush was the epidemiological nature of the malady fully recognised. He was careful to state that removal from the seat of infection was a valuable measure, and that the clothing deserved some attention. The importance attached to prophylaxis by modern physicians has led to the appointment of several commisssions and to many reports by the Medical Officials of the Local Government Board. This form of treatment has not yet been successful in mitigating the death rate from this very fatal malady, but all are agreed that it is in that direction that the true remedy for this form of infectious disease must ultimately be found. It is now recognised as an infectious disease, and wards are set apart in children's hospitals for infants brought there suffering from the disease.

The modern line.—Otherwise modern physicians continue to deal with the disease almost on the same lines as those which have held ground from the time of Hippocrates. The general practitioner has not hitherto obtained much assistance either from the consultant or the specialist in diseases of children, although it is alleged that such have special opportunities in large institutions and children's hospitals for treating and investigating this disease. At such institutions and children's hospitals the cases are met with at too late a stage of the disease, and it has been wondered whether out-patient treatment at these hospitals is not fraught with more harm than good —whether the treatment there is not a sham and a farce perpetrated after the manner of the ancient heathens. The medical officers see the infants after the mischief has been done, and rectify it with "good advice," which is seldom taken even if the intelligence of the patients' friends or the means at their disposal enabled these directions to be followed. The general practitioner is the instructor in home hygiene, and to him the "out-patient poor" should be referred if the death rate from this disease is to be reduced. The deaths from it in London for the week ending September the 8th, 1906, amounted to the appalling figures of 529. What part of this death rate was due to the delayed and inconvenient treatment adopted in out-patient departments of children's hospitals is an interesting research problem.

Is the feeding-bottle a factor?—Sir Richard Thorne-Thorne maintained that no milk direct from the mammary gland of the mother ever caused the death of an infant from specific summer diarrhœa. Others conclude that infants fed from the breast are remarkably exempt from this disease. There is an absence of data on this point. If the feeding-bottle is a factor in this disease, it is a comparatively modern one. Further inquiry is needed as to whether the irritant alkaloidal poisons of infant food products enter through the milk used in artificial feeding through the mother, or are developed in the alimentary canal of infants.

Attempts at producing immunity.—It is of importance that the treatment of the cases should be begun early. During the hot, infective season all thoughts of teething, ileo-colitis, or other common forms of infantile ailments have to be waived, and the symptoms of this disease regarded as serious from the onset, and treated as a condition of nerve- and muscle-poisoning, in order, if possible, to combat the exhaustion and collapse which supervenes so rapidly. An effort should be made to neutralise this poison and to promote its elimination. For this purpose tuberculin and the anti-diphtheric serum injected *per rectum* has been used with satisfactory results. Experiments have also been made tending to show the possibility of obtaining by inoculation a very considerable degree of immunity. Haffkine got reactions by passing a pure virus of Asiatic cholera of known strength through a series of animals. His method of protecting animals against a strong virus can be consulted in his paper in the 'British Medical Journal,' February the 11th, 1893. The specific anti-toxin of infantile diarrhœa has not yet been discovered, but the use of anti-diphtheric serum, or of tuberculin by rectal injection, seems to have a curative effect if used at the onset of the disease, and, in any case, it is a modern method of dealing with this disease which is well worthy of consideration.

Modern methods of treatment.—Treatment differs (1) at the onset of the attack; (2) when exhaustion and the collapse stage have supervened.

Isolation and diet.—Removal of the infected infant from the foci of infection was recommended by Rush. Locality has, apparently, great influence on this disease. At the Islington Infirmary, Highgate, all the infants were nursed day and night out of doors, from June the 1st, 1906, during the hot weather. Freedom from summer diarrhœa in that institution was attributed to this open-air treatment. The noise made by the infants occasioned complaints from local residents, and the plan had to be abandoned. Change of diet has also been recommended for ages. The general view now is to avoid feeding in these cases, except under very special circumstances, with a special diet, and under a strict regimen. The usual infant diet is entirely suspended until the symptoms have abated, a teaspoonful of distilled water being all that is required during the first twenty-four hours. Milk in all forms should be entirely stopped.

Eliminative treatment.—Certain lines of treatment have been formulated, based on the etiology of the trouble and the nature of the symptoms, which have still their analogues in ancient history. No specific treatment is available to counteract this disease in the last stages. The eliminative treatment was recommended by many old authorities, thus following what was called the indication of Nature.

On the ground that the poison is suspected to be of a proteid or albuminous nature tannic acid or tannogen has been employed. Tannic acid, 2 grs., and glycerine, every two hours, has been given to quite small babies. In this way it is attempted to neutralise the albuminoids. Further, nearly all authorities agree in giving castor oil in early cases of infantile diarrhœa, as, for instance, in this formulæ:

Castor oil	♏v.
Mucilage of tragacanth or acacia . . .	♏x.
Glycerine	♏iij.
Dill water	ʒj.

To be given every two hours.

It has been advised to give a rectal injection of half a dram or a dram of infusion of quassia with a small syringe, repeating it at intervals of three or four hours; other astringents, like hæmatoxylin, may be similarly used.

A combination of rhubarb and grey powder acts in a similar manner, and seems to have some beneficial effect on the intestinal tract.

The following formula has also been recommended:

Tincture of rhubarb	♏x.
Syrup of ginger	♏v.
Glycerine	♏v.
Mucilage of tragacanth	♏v.

Dr. Goodhart treats cases of febrile diarrhœa with a dose of castor oil, followed by a simple alkaline mixture or by demulcents, like almond oil, sweetened by glycerine, and made into an emulsion with tragacanth. He gives this formula:

Bicarbonate of potash	ʒj.
Oil of sweet almonds	℥½.
Glycerine	ʒij.
Compound powder of tragacanth	ʒ½.
Caraway water to	℥ij.

One dram to be given every few hours. A few drops of ipecacuanha wine may be added if required.

One of the oldest forms of eliminative treatment on record consisted of doses of tartar emetic and ipecacuanha to provoke emesis. Trousseau gave ipecacuanha, 30 to 40 grs. in twenty-four hours, in two or three doses. Sydenham cleaned out the stomach by promoting emesis by large draughts of milk and beer, or black wine. Nowadays the stomach is washed out by means of a long tube with a warm (98° F.) alkaline solution of bicarbonate of soda, 2½ grs. to the ounce, or, as Demme recommends, a 2 or 2½ per cent. solution of boracic acid. French authors recommend Vichy water. Meinert is strong on the use of plain water. This process can do no harm, and it may be followed by one or two grains of calomel, which further helps elimination and tends to check fermentation. The intestines may also be cleared out under low pressure with a decoction of boiled water, marsh-mallow, and salt solution. This is not suitable in follicular enteritis. This is done by means of a fountain syringe, allowing about two ounces of fluid to flow into the bowel, alternately raising and lowering the funnel until the contents come out clear. One dram of borax to the pint of water also helps to remove fermenting substances and to cleanse the mucosa.

Neutralising and preventive methods.—The use of intestinal antiseptics is another method which is employed for destroying the toxins in the gastro-intestinal canal, and is a step in the direction of progress. Salol, resorcin, mercurials, and lactic acid have been used from time to time, and discounted. Large doses of bismuth, 2 drams in twenty-four hours, found much favour with some practitioners. Cyllin syrup is the latest development of this means of dealing with infantile diarrhœa. It certainly has much to recommend it, both as an adjuvant in preventing extension to other members of the family, or in institutions where many infants are cared for, and as an actual destroyer of the toxin-producing material—the cause of the whole trouble. I have had excellent results with the cyllin syrup in many cases, and, where one in a family of several children is attacked, the trouble has been prevented from spreading to the others by the administration of full doses (10 to 40 minims) for a period of three or four days.

It is a reliable intestinal antiseptic, safe to administer internally, and agreeable to the infant. The administration of ten minims of cyllin syrup is equivalent to three minims of pure phenol, but without its poisonous action. It has been largely used in children's hospitals, with favourable results, but as the cases taken there arrive much too late for any effective treatment, it is the general practitioner who obtains the best results. The timely use of this excellent remedy usually checks the course of ordinary cases within three days, and aids very largely the efficiency of the other measures employed. It is not proposed here to deal with the measures which should be adopted by medical officers of health in connection with the prevention of infantile diarrhœa, except to say that cyllin will be found most efficient in dealing with that aspect of the disease.

In connection with this neutralising treatment, mention may be made of the effect produced by small doses of Liquor hydrargyri perchloridi in certain forms of diarrhœa. It is spoken of as a specific in hill cholera, so common in certain parts of India. In cases of infantile cholera, which suddenly develop very acute symptoms, this treatment may be tried in place of calomel and grey powder. It has been recommended by Cheadle and others in

2-minim doses, given in the castor oil mixture previously alluded to. It seems to alter the intestinal secretion, and to enable the bowel to resist the formation and absorption of the poison.

The sedative treatment.—Other practitioners lay great stress on sedative treatment. Sydenham used a white mixture, which may be taken as a type of the more modern anodyne medicaments :

Calcined hartshorn	grms. viij.
Bread crumb	,, iv.
Gum arabic	,, vj.
Cinnamon water	,, viij.
Simple syrup	,, lx.

More reliance is placed by modern men on castor oil and bismuth, which has a very soothing action on the bowel.

Following these lines, Cheadle sometimes gives it with opium.

Bismuthi nitratis	grs. v.
Liquoris opii sedativi	♏ss.
Vini ipecacuanhæ	♏iij.
Aquæ cinamoni	ʒij.

Bismuth with Dover's powder, or chalk and soda, is another sedative remedy with a history. I have heard a country doctor (Dr. Selby of Teynham) speak of the value of salad oil (olive oil) for its sedative action on the bowel, and, on this ground, I think its administration in infantile cholera has much to recommend it. It acts both as a sedative and as a food, and can be given either by rectum or hypodermically, if previously sterilised, much in the same way as the saline solution. Four ounces of olive oil are equivalent to 800 calories; a tablespoonful is 100 calories. A case is on record where a man was kept alive for forty days by olive oil injections.

In regard to the administration of opium, most authorities are agreed that it has no effect whatever in checking the diarrhœa. It is sometimes given in small doses, where there is much restlessness, although many prefer to use chloral and the bromides under these circumstances. Laudanum, however, was freely used by the older physicians, and Holt recommends the hypodermic injection of morphine $\frac{1}{100}$ gr., and atrophine $\frac{1}{800}$ gr., as a cardiac stimulant.

It is probably safer to adopt Trousseau's recommendation to avoid opium rigorously in every form, as it leads so readily to what he calls "the typhic stage." Henoch holds that the practice of giving opium at once only serves to keep the injurious matter longer in the intestinal canal, but should the attack continue in spite of treatment, or should the patient only come under the treatment after the disease has lasted some days, he then no longer avoids the use of opium because the infectious germs have been got rid of, and their retention need not be dreaded. In such cases he adds 5 to 15 drops of the tincture of opium to the hydrochloric mixture and also gives twice or thrice daily a starch enema containing from 1½ to 3 drops of laudanum. His formula is as follows:

Dilute hydrochloric acid	♏xx to xl.
Tincture of opium	♏iij to vj.
Mucilage	ʒss.
Water to	℥iv.

A dessert-spoonful every two hours. This is manifestly not for very young infants.

Modern practice tends to the opinion that opium is not a safe remedy to use when the child is already suffering from extreme weakness and collapse—conditions which appear to result far more from the system than from pain—and it is therefore hazardous to employ a drug which entails further risk. But if irritation of the bowel should continue after the disease is over the acute stage, chalk, bismuth and opium, administered either by the mouth or the rectum, may be given according to the amount of diarrhœa to soothe the intestine.

Astringents.—Various astringent medicines have been used, although, as a rule, astringents are not of much value in the treatment of infantile diarrhœa. Hæmatoxylin may be used as a basis and is a useful astringent. The vegetable astringents employed contain tannin in various forms, more especially rhatany, krameria, kino, catechu, and some others. They can be given in the form of infusions, decoctions, tinctures or extract. Sometimes it is helpful to employ the inorganic astringents, such as sulphate of copper, or zinc, or nitrate of silver. Trousseau recommends one centigramme in 60 to 100 grammes of water (distilled). This is a sedative to the stomach and tends to prevent diarrhœa as well. Another powerful drug much used in the treatment of this disease is pale French brandy—a diffusible stimulant. It is either administered in bread-jelly food with peptonised milk, one or two spoonfuls an hour, or in Brand's essence or Valentine's meat-juice. The dose of brandy varies from 5 to 10 minims to 30 or 60 minims, according to the age of the infant. It arrests fermentation and is an excellent sedative for children. It should be given before the collapse stage comes on, and if it is vomited it should then be injected by the rectum. Brandy and iced champagne in very small doses are usually tolerated if given by the mouth, especially after vomiting has ceased.

Baths.—The hot bath has always been regarded with favour in the treatment of this disease. Trousseau says: "I look upon the mustard bath as a powerful medication in infantile cholera when the disease is in the first stage." He employed it in the following manner: 50 grammes of mustard is enclosed in a little bag and used to sinapise about 25 litres of water. The bath is used for 12 to 15 minutes. Reaction comes slowly. The child ought to be wrapped up in blankets or very dry warm linen. Another method is to add a tablespoonful of mustard to the gallon of water, and afterwards to wrap in blankets and surround with hot bottles. If the temperature is high (over 105° to 106° F.) a tepid bath with a temperature of 85° F. to 90° F. or 100° F. should be employed, and this should be repeated every three or four hours if necessary. It is a very severe method for babies, and is inadvisable in extreme collapse when transfusion and strychnine are preferable, but it is a handy remedy. It should start at 100° F. and should be gradually raised by the addition of hot water up to nearly 110° F., though it is rarely necessary to go so high.

Treatment of exhaustion.—In treating the stage of exhaustion and collapse which follows the rapid wasting it is necessary to bear in mind that the condition arises from the want of rest and food and the loss of fixed albumins. This is seen by the amount of wasting that takes place in the subcutaneous tissues and the muscles. This is combated nowadays by a hypodermic injection of strychnine, ½ minim, every half hour, the use of diffusible stimulant—brandy (already mentioned) or ether in the form of syrup, a teaspoonful every hour or half hour, or simply by hypodermic injection. The administration of beef-tea, chicken-soup, as mentioned by the older authors, if the condition of the stomach will permit, is frequently resorted to, and bread-jelly food, peptonised milk, Brand's essence, and Valentine's meat-juice, should be given when the sickness has ceased for twenty-four hours. If collapse is imminent beef-jelly or beef-tea enemata should be used.

When the temperature has reached an excessive stage, baths, as recommended above, should be given every ten or twenty minutes. Iced water may be administered by the rectal tube.

Collapse.—When collapse is imminent the external temperature must be maintained by hot baths, hot bottles, and hot bags. It is important in a disease where the nutrition is impaired and the loss of substance is great to maintain the external temperature. The effect of temperature in such case is illustrated in the treatment of sprue, where the continued low diet tends towards exhaustion of the patient. A sprue patient may be kept on a minimum diet for six weeks or two months, provided the temperature of the room be kept high and the patient kept warm. But the suddenness of the onset of exhaustion and collapse render it somewhat difficult to use this means in the case of infantile diarrhœa.

The "eau albumineuse."—One of the methods which has been handed down from ancient authors for combating the loss of fluids and the great thirst of the sufferer in this diseases is Trousseau's egg albumin diluted with water, or the "eau albumineuse" of Trousseau—a useful thing if the stools are not offensive. If sour stools are established the albumin diet is given, such as the broths and jellies mentioned above, or the egg albumin which Trousseau directs should be made by diluting the whites of four eggs with a litre of water, sweetened with sugar, and flavoured with orange flower water. This is an excellent remedy and greatly appreciated. The usual way of preparing it nowadays is to break up the white of one egg in about ten ounces of water and add a little sugar. Brandy is sometimes added—ten to twenty minims to the two ounces. The child is fed with that every two hours. The sugar is a good nutrient, and can be absorbed through the walls of the stomach and intestines practically without digestion.

The saline injection.—In order to maintain the amount of fluids in the body, it has been suggested that an injection of the normal saline solution should be made in the loose cellular tissue of the abdomen. It should be administered with an ordinary anti-toxin syringe subcutaneously. Two ounces may be injected on each side of the abdomen; the temperature should be 100° to 102° F. Sometimes brandy should be added to this injection. As, however, this leaves a bruised mark on the abdomen, the practitioner should be careful to inform the parents of this. It may also be given in the loose areolar tissue of the axillary region by using a long hypodermic needle, and allowing the solution to pass in through a tube by gravitation.

AFTER-TREATMENT.

Children stand starvation very badly. Feeding should be begun early. Milk sets up flatulence and distension and encourages fermentation and the growth of bacteria in the alimentary canal. Sterilised olive oil *per rectum*, or hypodermically, is very efficacious. Some form of sugar (one gramme equivalent to nine calories same as fat) may be injected subcutaneously, but it is important to use a weak solution to avoid abscess formation.

If the child lives through this stage it will thrive subsequently on what Trousseau calls the "raw meat" diet. When it is found that milk preparations continue to disagree with the child it is suggested that it should abstain from them, and should live upon nothing but the old-fashioned barley-water for two or three days, and then return to a proteid diet of raw beef-juice, clear chicken soup, or white of egg and water for a day or two more, and at the end of this time the child may be able to take milk again. A vegetable bouillon is recommended by French authors, made by adding to a quart of water, carrots 65 grms., potatoes 65 grms., turnips 25 grms., dry peas or beans 25 grms.; boil in a covered dish for four hours, and add 5 grms. of salt. Prepared daily, and used fresh every three hours just like milk, it has been found useful for babies from eighteen days to two and three months.

In this disease where all milk disagrees it is found that a pure cereal infant food free from any additional chemical matter, and free from the presence of peptonising agents, seems to agree with infants when they are recovering from infantile diarrhœa. It is all very well to lay down hard and fast physiological lines in regard to starchy matters disagreeing with infants. It depends on the quality and quantity of the starchy matters. It is the paradoxes of life that beat physiologists and create new fields for investigation. It is known that in certain diseases of infancy where milk diet is entirely forbidden, and conspicuously so in infantile diarrhœa, an infant's life may frequently be saved by the administration of a *pure* cereal food. I have used such a food in many cases of infantile diarrhœa, and with striking success.

Trousseau's beef or fowl diet.—Trousseau's method of making his beef or fowl diet—beef and mutton are preferable—is as follows: cut it up into very small morsels, then put it into a mortar, and with the pestle work into a thick mass. The pulp so made is then passed through a cullender so fine as to permit nothing to be used except the juice of the meat and the fibrine of the blood, leaving behind blood-vessels and clear cellular tissue. By this means is produced a *purée de viande*, which is collected by scraping the external surface of the cullender. Children seem to like it. Sometimes it is made up into balls with salt and sugar, and with the jelly or conserve of roses, or put into clear gravy soup, or with a little tapioca or sago, or mixed with chocolate and water. Small quantities are administered at first in weight equal to about a sixpence (*i.e.* a gramme), gradually increased up to about 25 grammes three or four times a day. With this diet the drink should be—in the circumstances already related—the eau albumineuse. It modifies the diarrhœa, and the children like it.

The head symptoms are assuaged by ice-cold cloths or the ice-cap applied to the head. Convalescence is sometimes slow, and tonic treatment has to be administered, such as nux vomica and iron or perchlorides, or the hypophosphites.

Conclusion.—The modern methods include hypodermic injections of strychnine—a dangerous drug for infants—and transfusion of saline fluids into the subcutaneous cellular tissues, followed by the mustard-and-water bath, stomach lavage, rectal irrigation (4 ounces of ½ per cent. solution of protargol and other salts), feeding with a milk-free albuminous diet, with a little brandy as a stimulant, and the use of certain drugs. No principle unknown to the fathers of medicine nor any new method is here involved, if hypodermic injections of strychnine and the rectal injections of serum, which is as yet in the experimental stage, are omitted from the list as being of doubtful value.

THE OCCURRENCE OF GOITRE IN PARENT AND CHILD.

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I wish from two points of view to draw further attention to the case of a child I shewed before the Society for the Study of Disease in Children* on February the 16th of last year, in order to raise the questions of treatment and of inheritance of certain goitrous conditions.

I will first recapitulate the clinical features of the case. Elsie B—, aged 6 years, had passed an uneventful life until six months before coming under observation. At that time the mother noticed a fulness in the neck that had increased fairly rapidly at first and then more slowly, but which was still growing. No other symptom had been noticed. The swelling was found to be centrally situated in the front of the neck less than an inch below the larynx, with bilateral and symmetrical extension; it was about the size of a small tangerine orange, moderately soft in consistence and of uniform feel. It moved on deglutition. Except that there was no pulsation, the tumour was identical with the goitre of Graves' disease. No diagnosis other than that of parenchymatous goitre was therefore permissible.

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* 'Reports of the Society for the Study of Disease in Children,' 1906, vol. vi, p. 192; British Journal of Children's Diseases, March, 1906, vol. iii, p. 120.

The treatment adopted was the administration of thyroid extract. Half a grain was given twice a day for a month, and then twice this dose for another month. At the end of this time the former dose was again employed, and was continued for ten weeks further. Within a fortnight of the start the size of the tumour had obviously diminished. After this the shrinking proceeded at a slower rate but always progressively, until after about ten weeks from the start the thyroid became of about the normal size. It has remained in this state, being what might be called a well-developed thyroid, ever since, though no treatment has been administered for the past seven months. No other treatment had been employed beyond attending to the general hygiene of the patient.

The value of thyroid extract in the treatment of certain goitres has been recognised for some time past. There is an interesting class of case, of which I have had three under my care in the past year, in which the diminution in the size of the swelling is accompanied by an increase in the definition of one or more adenomatous growths that had formed, as it were, the basis of the swelling. In fact, it may be possible after such treatment to feel adenomata that could not previously be detected. I need hardly say that such growths should always be treated by operation.

There is considerable theoretic interest attaching to the results thus obtained. It has long been known that cases of Graves' disease are rarely made worse by the administration of thyroid extract, and many authorities have recommended its employment for the routine treatment of the disease. Although I have seen good results in the treatment of Graves' disease by Moebius' thyrodectin and its newer rival rodagen, I have seen equally good results follow the employment of simple thyroid extract. It is true that these favourable results are rarely seen except in the early stages of this disease, which, as we know, runs naturally a very variable and capricious course. These facts, which are constantly accumulating, have always been a stumbling block in the way of the pathologists who maintain the simple hypersecretion hypothesis as an explanation of Graves' disease, and are of considerable weight in support of the other reasons that go to shew the inadequacy of this explanation.

The other point of interest that attached to the case just described was the fact that the mother of the patient, aged 37 years, had had for some eight years a goitrous swelling. This was about the size of a cricket ball and chiefly affected the right lobe. It was possible, though not all of those who examined the patient agreed in this observation, to make out an ill-defined margin to an adenoma imbedded in the swelling. As the woman would not then consent to an operation I put her on thyroid extract, with the result that in six weeks' time the swelling was very perceptibly smaller and the adenoma was clearly to be defined. She then became pregnant, but I have persuaded her to be operated on after this incident is closed, with, I doubt not, the usual favourable result.

The problem of the occurrence of various thyroid affections in members of the same family is an extremely interesting and obscure one. I do not propose in any sense to attempt to discuss it here, as my main object in recording the present case is to contribute to the material that must be collected on a grand scale before the problem can adequately be dealt with. In this connection I should state that there has been no previous case of goitre in my patient's family. The child had one sister, healthy, aged 3 years, no brothers, and no dead siblings. The mother had always lived in London and had three healthy siblings. The great fallacy that has vitiated so many of the discussions on this subject has been the assumption of the Lamarckian hypothesis of heredity, which is almost universally made by medical men; one finds this done even in the best work on the subject--for instance, throughout Cerletti and Perusini's * researches, which are the most extensive I know of. These authors in the account of their investigations amongst the goitrous people of the Northern Alps repeatedly speak of congenital cretinism as being due to the reflection on the offspring of the hypothyroidism of the parents, particularly of the mothers. They certainly established, amongst other things, that a remarkably high percentage of the mothers of cretins show signs of hypothyroidism. But the inference that cretinism is due to maternal hypothyroidism is quite another thing and is not supported by any evidence worthy of the name. It is not certain that there is any disease of the thyroid that is hereditary in the biological sense—that is, is due to a transmissible innate variation; so that any part that heredity may possibly play must be an indirect one connected with perhaps the question of susceptibility to certain poisons. Now, it is precisely on the subject of this indirect action of heredity that our knowledge at present is most incomplete, so that any facts, however unimportant, as isolated contributions on this subject, are worthy of being placed on record.

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* U. Cerletti and G. Perusini, 'Annalia dell'Instuto Psichiatrics,' Roma, 1904, vol. iii.

The Society for the Study of Disease in Children.

A MEETING of this Society was held at 11, Chandos Street, on Friday, February the 15th, Mr. SYDNEY STEPHENSON in the chair.

The following cases were shown and discussed:

A Syphilitic Child, with typical Bilateral Buphthalmos (Infantile Glaucoma), aged 10 months, was shown by Mr. SYDNEY STEPHENSON. The condition had been observed immediately after birth. The corneæ, which were then extremely cloudy, had cleared under treatment locally by physostigmine and mercurials internally. Moreover, the operation of anterior sclerotomy had been performed upon the worst eye. The child retained fair sight.

A Case of Cretinism was shown by Dr. E. I. SPRIGGS and Mr. F. W. HIGGS (introduced). The child, aged 2 years and 7 months, is 26 in. long, and the circumference of the head is 17¼ in.; her size is, therefore, that of a girl of about 10 months. She cannot walk or even stand up without assistance. The aspect of the face is characteristic, the eyes wide apart, the base of the nose broad and sunken, the mouth large and open, with thick lips, the skin dry, the subcutaneous tissue thickened, and the cheeks hanging. The complexion has already improved markedly in the three weeks since the administration of thyroid extract was begun. The hair is straight and scanty, being almost absent on the sides of the cranium, and of a yellow colour. The fontanelle is open. The neck is thick, and thrown into folds, and the thyroid body cannot be felt. There are no fatty tumours. The hands are broad and covered with loose inelastic skin. The feet are cold, and the body temperature rarely rises above 97° F. The abdomen is loose and protuberant. There are no signs of rickets, and the voice is not hoarse. Six teeth are present. She is not torpid, but looks about her, and if any attempt is made to amuse her laughs, but she has made no endeavour to speak, cannot grasp objects with her hands accurately, constantly makes a loud clicking noise with her tongue, and passes her evacuations into the bed. The thyroid extract caused her weight to fall by half a pound, and this loss was accompanied by considerable restlessness and fretting. A reduction of the dose (1 gr. thrice daily) at once ameliorated these symptoms.

Dr. LEONARD GUTHRIE always thought breast children escaped myxœdematous symptoms, but had recently had two cases which disproved this.

Dr. FLETCHER BEACH believed the result depended upon the age at which thyroid treatment began.

Dr. F. J. POYNTON mentioned a mother suffering from exophthalmic goitre who nursed her child, which was a cretin. This child responded to thyroid treatment.

Dr. PORTER PARKINSON believed that mental improvement did not always correspond with physical improvement by thyroid treatment.

Dr. G. A. SUTHERLAND alluded to diarrhœa as a symptom when too large doses of thyroid were given.

A Case of Cerebral Tumour in a Boy, aged 10 years, was shown by Dr. Cautley. For six weeks he had attacks of headache lasting twelve hours, terminating in vomiting about once a week. For two weeks he squinted, due to paralysis of the left external rectus. He had optic neuritis and exaggerated knee-jerks, but no other abnormal sign on examination. Dr. Cautley suggested a small, quiescent, tuberculous focus in the superficial region of the pons.

Dr. Hawthorne agreed with the diagnosis, and pointed out the likelihood of such cases becoming quiescent, though blindness was a frequent consequence.

A Large Inguinal Hernia containing most of the Bowel, in conjunction with Basal Meningitis, in an Infant, aged 6 weeks, was shown by Dr. Cautley. The condition of rigidity of the abdominal muscles made it doubtful if an operation should be done at present for the cure of the very large hernia.

Mr. Mummery thought the child should be slung to a cross-bar by the legs to facilitate reduction of the hernia, failing which he would operate.

Mr. Jaffrey advised postponement of operation.

A Case of Morbus Cordis in a Boy, aged 8 years, was shown by Dr. Cautley. He had rheumatism with pericardial effusion, and aortic diastolic and mitral systolic murmurs. The latter disappeared, but the aortic diastolic vanished for a time only, and has recently again become heard, and accompanied by a thrill. It was doubtful if pericardial adhesion was present.

A Lymphangeioma or Lymphatic Nævus of the Left Side of the Tongue in a Boy, aged 5 years, was shown by Mr. P. Lockhart Mummery. The tumour was discovered accidently in the course of an examination for some digestive disturbance. The mother had never noticed the tumour, nor has it ever caused the child any inconvenience. The tumour is about 1½ in. long and ¾ in. across. The surface shows small, clear-walled cysts. It is not proposed to perform any operation for its removal at present.

Three Cases of Aortic Regurgitation were shown by Dr. Porter Parkinson. They were all in girls, and followed rheumatism.

Case 1.—Aged 9 years, had a diastolic aortic and mitral regurgitant murmurs, with water-hammer pulse. The left ventricle was enlarged.

Case 2.—Aged 14 years, had much visible carotid pulsation. The deep cardiac dulness was increased to the right and left, and the heart's impulse was just outside the nipple line in the fifth space. There was a double aortic murmur; a presystolic thrill at the apex and presystolic and systolic murmurs at the apex. The pulse was water-hammer, and there was capillary pulsation. The liver was slightly enlarged. It was probable there was no mitral stenosis as the pulse was fairly large.

Case 3.—Aged 12 years, had a well-marked aortic regurgitant murmur only. The left ventricle was enlarged, and the pulse of the water-hammer character. In all three cases the aortic murmur was best heard at the second costal cartilage on the left side and conducted down the left edge of the sternum.

A Case of "Punch"-like Intonation in a Syphilitic Infant was shown by Dr. G. A. Sutherland. The child, aged 3 years, was blind from birth due to postneuritic atrophy and choroidal atrophy. He was very small and flabby with marked rickety changes. There was scarring round the mouth. He was bright and lively. The speech was unintelligible and of a squeaking or "Punch"-like character. The larynx appeared normal. Dr. Sutherland had seen a similar case in a child with hydrocephalus from basic meningitis, and suggested a cerebral lesion as responsible for the peculiar intonation.

A Case of Undue Mobility of the Right Knee-joint was shown by Dr. F. J. Poynton. The child, aged 3 years, was brought to hospital for some digestive disturbance, and it was then found that she had remarkable power of lateral movement in the right knee-joint. If she semiflexed the articulation and inverted her foot she could voluntarily move the tibia outward and slightly forward over the femur and then back again into position. This movement was apparently brought about by the popliteus muscle. There was clearly considerable laxness of the lateral and crucial ligaments. The outward movement was accompanied by a clicking sound, as when the limb was extended there was no lateral movement, and walking and running were apparently not interfered with at all. The articulations of the wrists and fingers were to a lesser degree more mobile thad natural.

A Case of Cerebral Abscess after Operation was shown by Mr. M. P. Turner (introduced). The girl, aged 7 years, was operated on for an acute mastoid abscess following right middle-ear disease of some months' duration, on December the 4th, 1906. For the past year occasional attacks of *petit mal* had been observed, but no convulsions. A week after the operation the child became drowsy, and had a convulsion which commenced in the left hand and left side of the face, and was followed by hemiparesis of the left side. There had been no headache or vomiting, and there was no optic neuritis. More bone was removed; the dura mater was exposed and found to be normal, and no pus was found, but granulations blocking the opening of the antrum into the tympanum were removed. As the result of this the child improved, and the drowsiness and weakness disappeared. However, ten days later, she developed headache, and again became very drowsy. A needle inserted into the temporo-sphenoidal lobe showed the presence of pus, and an abscess 1½ inch above the external auditory meatus was opened and drained. Convalescence was uneventful, except for a hernia cerebri, which eventually disappeared. The chief points of interest were: (1) the history of *petit mal*, which caused some difficulty in diagnosis; (2) the mental condition of the child.

A Case of Infantilism was shown by Dr. L. A. Clutterbuck. A girl, aged 13 years and 9 months; full time child; breast-fed up to seven months; very ill at three months after hæmorrhage from the bowel. She had measles and chicken-pox between seventh and eighth years. She is intelligent, but does not know her letters. She was only at school for a year when about eight years of age. Height, 3 ft. 4½ in.; weight, 2 st. 6¾ lb. Breasts quite undeveloped. No history of syphilis or consanguinity in parents.

Editorial.

"SWILLS."

There is a daily function at one of our large public schools which goes by the name of "swills." Whether the euphonious term "swills" is, like the function, a creation of the inventive genius of the school authorities, or whether it is merely a euphemism of the collegiates has not transpired.

"Swills," according to our informant, is a cold plunge-bath, into which all the boys must tumble—be they weak or be they strong—immediately after exercise. The boys—all hot and perspiring, after hard exercise—rush for the bath, peel off their clothes, and plunge in. Poor little beggars! How the majority of them must loathe it. Our informant—a big boy—confessed to not caring for it, for after his daily sacrifices to "swills" he was left with cold extremities and remained cold and wretched for the rest of the day.

The primary effect of a cold bath is to contract the cutaneous capillaries and drive the blood from the skin to the underlying tissues and internal organs. The skin is blanched, the extremities become blue, and there is a temporary sensation of depression. To the robust there ensues a feeling of exhilaration, the skin glows and feels warm, the pulse quickens and grows fuller, and the respirations become deeper. Bathing under such conditions is a veritable tonic. There arise increased destruction and construction of tissues by oxidation, and the bather feels more vigorous in body and in mind. Cold baths increase the body weight, improve the blood, harden the muscles, and sharpen the intellect. The digestive processes are strengthened, and the appetite is improved.

To obtain beneficial results, the duration of the bath must depend upon the boy's strength, and boys should always leave the bath at the height of general exhilaration. The depressing effects of a cold bath are in proportion to its duration, and to the temperature of the water. The colder and longer the bath, the more the depression.

But to some boys there never arrives that sensation of exhilaration. The bather never gets warm, and he experiences feelings of wretchedness and depression the rest of the day. For long hours after the bath he is incapable of both bodily and mental exertions. His circulation is feeble, his extremities are cold and lifeless, and he endures sinking sensations at the pit of his stomach, and a distaste for food. Such effects on a young and growing boy are most pernicious.

While this function "swills" is a blessing to the healthy and vigorous boy under proper conditions, to the weakly it is quite the contrary, and should be abandoned.

"Swills" for healthy boys is a good tonic, and there is no objection to their plunging into cold water after warming up their extremities by a brisk walk. But we do not advocate hot and perspiring boys, who have been undergoing fatigue, taking a cold plunge. Should there be any latent mischief in the kidneys, or any weakness of the lungs, "swills" appears to us to be sufficiently searching to excite them to activity. The frequent occurrence of transitory albuminuria after a cold bath shows how great the stress is upon the kidneys.

Cold baths should not be taken for three hours after a meal or immediately before a meal; in either case digestion is likely to be interfered with. The bath should be taken when the body is most vigorous and most refreshed; bathing before breakfast on an empty stomach is not advisable.

Boys should be instructed to practise vigorous rubbing with a rough towel after the bath, as this not only improves the cutaneous functions, but relieves fatigue after a hard day.

Bathing in our public schools should, in the interests of the boys, be under the control of the medical officers. If such were the custom we should meet with fewer cases of debility and wretchedness from this routine practice of cold bathing for the multitude. We offer this as a suggestion to the inventors of "swills," and to other public school authorities who hold similar views.

Abstracts from Current Literature.

Medicine.

Acute dilatation of the heart in the new-born, and morbus ceruleus (*'La Presse Médicale,' Sept.*, 1906, *No.* 71, *p.*567).—**Ferreira** discusses the dynamic conditions of the circulation necessary for the closure of Botal's aperture after birth, and how disturbances of the fœtal circulation prevent this closure, increasing the tension in the right auricle and causing its acute dilatation. The auricles are incompletely divided off at birth. Botal's aperture seen from the right auricle is represented by a muscular ring (Vienssen's); seen from the left auricle, it appears as a kind of reticulated curtain (Weill) attached to the deepest part of the ring. At birth it is observed to be either adherent or free on its fleshy part, but it comes strongly into contact against it when the left auricular pressure carries it over the right auricle. When the predominance of pressure is on the right side Botal's membrane allows the blood to flow again from right to left as during fœtal life. If the circulation is disturbed from any cause, the excess of pressure in the right auricle distends it and the child is born with symptoms of cyanosis, and the permeability of the auricles persists a longer or shorter time. The author has been able to ascertain the dilatation of the right auricle by percussion, and has proved its existence by autopsies. Examination of the blood in these cases shows an excessive degree of hyperglobulia. He has successfully treated cases by injection of camphorated oil, employing 1 to 2 c.c. of camphor 0·30° C. in sterilised olive oil 30 grammes.

Vincent Dickinson.

A case of cervical rheumatism in a child (*'Le Progrès Méd.,' October*, 1906, *p.* 665).—**Fage** and **Nuchet** report a case of a boy aged 9½ years, remarkable for the long duration of painful symptoms (about one month), which disappeared completely at last, for the existence of cardiac lesions whose onset could not be determined, and for attacks of paroxysmal tachycardia with intense precordial anxiety which preceded the painful crisis, occurring at the commencement five or six times in twenty-four hours. These attacks disappeared after a month's stay in hospital. The diagnosis was very difficult, the case being at first mistaken for cervical Pott's disease. An autopsy was able to be obtained a month after the complete disappearance of the cervical pains and showed cardiac and complex visceral lesions —*i. e.* enormous hypertrophy, ulcerative fungous endocarditis of mitral valve, atheroma of aorta, nutmeg liver, and a little ascites. On the other hand, there was absolute integrity of the cervical spine and freedom of its articulations and integrity of the nerves to the naked eye. The pains in the cervical vertebræ seem, therefore, to have been an episode in the course of an infective process which produced its effects on the heart, cervical articulations, and nerves. Vincent Dickinson.

Pneumothorax following tuberculous broncho-pneumonia in a child aged 2 years (*'La Clin. Infant.,' Dec.*, 1906, *No.* 23, *p.* 715).—**Abel Gy** describes the case of a female child, aged 2 years, in whom these conditions existed. At the autopsy a small quantity of yellowish-green fluid was found in the right pleural cavity, which was thickened throughout. The right lung was flattened against the spine, and showed the lesions of tuberculous broncho-pneumonia and the existence of a cavity the size of a small nut, whose orifice of communication with the pleura was masked by a pseudo-membranous exudation. The interest of the case lies in the rarity of pneumothorax at this age. From statistics of ninety-eight cases West only found three of pneumothorax below the age of thirteen years ('Lancet,' 1884). Netter, in two and a half years, only came across one case in a girl aged 13½ years. This pleural complication is sometimes met with in early infancy after pneumonia (Rilliet and Barthez), after ordinary broncho-pneumonia, pulmonary gangrene, whooping cough, syphilitic gummata, etc., but tuberculosis is its most frequent cause. An analogous case was published by Josias ('Rev. des Mal. de l'Enf.,' 1896, p. 139). The statistics furnished by Barthez and Sauné are copious, and according to them pneumothorax is relatively more frequent in early than in later childhood. Out of fifteen cases, five were in children between the ages of seven and fifteen years, and ten in children under five years. VINCENT DICKINSON.

On sleep in childhood (*'Deut. med. Woch.' September*, 1906).—**Cassel** states that the most frequent causes of disturbed sleep in childhood are neurasthenia and adenoids. The treatment requires the careful regulation of the details of the child's daily life. The bedroom should be quiet and dark, except in cases of pavor nocturnus and somnambulism, when a light in the room is often of great service in producing quiet sleep. If such simple measures are insufficient, hydrotherapy, in the form of the warm bath or the wet pack, should be tried. Hypnotics are to be avoided.

E. P. BAUMANN (Johannesburg).

A case of pyloric spasm in an infant (*'Boston Med. and Surg. Journ.,' September* 27, 1906).—**J. L. Morse** describes an instance of this condition occurring in a male infant. The child was born on May 21, 1905. His weight at birth was ten pounds. The mother's milk being found to be insufficient the child was put on various modifications of milk, on none of which he throve, suffering from colic and deficient movements of the bowel, with loss of weight. A wet-nurse was tried, but no increase in weight resulted. On a whey mixture the child seemed comfortable, but still the weight did not perceptibly increase. After this a series of patent foods and milk mixtures were tried, without good results. Vomiting now began to be a prominent feature of the case. A wet-nurse was again resorted to, when the child seemed comfortable and passed good-sized normal motions, but the vomiting slowly became more frequent. There was no nausea, the milk coming up in gulps without effort. The vomiting, which was never explosive, usually occurred soon after nursing, although a certain amount was also brought up immediately before each feed. The milk vomited was sour, but never curdled. At five months the history, in brief, was this: that the child had never gained in weight; that there had been much colic at the beginning which had entirely ceased; that the stools were at first undigested, but latterly had been normal in character and size; and that vomiting had gradually developed. The stomach area at this time was not increased to percussion; occasional waves of contraction could be seen passing over the stomach; no tumour could be detected in the region of the pylorus. Otherwise the child was well developed, although small and thin, and presented no evidence of disease. His weight was eleven pounds. A diagnosis of pyloric spasm was made, based largely on the vomiting of breast milk, the time and manner of the vomiting, the character of the vomitus, and the visible contractions of the stomach. Stenosis of the pylorus was ruled out on account of the considerable amount of fæcal matter passed. A favourable prognosis was given. The breast milk was continued, and three to four drachms of lime-water administered at each feed with the object of retarding the coagulation of the milk, and thus favouring the passage of liquid milk into the duodenum. The vomiting gradually diminished, and by the time the child was twelve months old had entirely ceased. At fourteen months he weighed twenty-eight pounds, and was perfectly well in every way. He was then weaned, and continued to do well.

E. P. Baumann (Johannesburg).

The influence of school closure in the control of the spread of infectious disease among children (‘*Public Health*,’ *October*, 1906).—**W. Wright** discusses the three only diseases in connection with which school closure is ever contemplated, viz., diphtheria, scarlet fever, and measles. (1) *Diphtheria*. By contrasting the cases of diphtheria occurring during the Glasgow school holiday period (*i.e.* six weeks), with the number occurring in corresponding periods before and after, the writer arrives at figures which indicate that the segregation of large numbers of children at susceptible ages in schools is in favour of the dissemination of this disease, and, when one recognises that it can be propagated only through the breath or saliva, he considers that this conclusion ought to be generally accepted. (2) *Scarlet fever*. On examining scarlet fever in the same manner, he arrives at the conclusion that the schools exert but little influence in the spread of the disease. The experience in Glasgow has been that, except from the occasional occurrence of limited groups of cases due to class infection, no epidemic has resulted from contact at school. (3) *Measles*. The question of the utility of attempting to control measles by school closure is best approached by reviewing the characteristics of the disease itself, viz. (1) high infectivity in the early stages of the disease before it is recognised; (2) its virulence; (3) liability to recurrence in epidemic form two years in succession in the same district, the second being more virulent than the first; (4) liability to a recrudescence in the third year in the same district, and in a form so severe that the case-rate incidence will be greater than that of the city as a whole. The figures for Glasgow clearly demonstrate the continued susceptibility of persons who have not already had the disease. It may be contended that, by raising the compulsory age-limit from five to six years, all, or most of the children will already have suffered from the disease before attendance at school, as by far the greatest incidence of measles is from the first to the fifth year of life. If *all* have been attacked, then it is obvious that the school can no longer spread infection, and school attendance may be allowed to go uninterruptedly. If *most* have been attacked, then the remainder are still ready for attack, in so far as school influence is concerned, but with this difference, that they form members of a class who have all suffered from measles: the possibility of direct infection has been removed, but that of indirect still exists. The writer's general conclusions are the following: (1) The regular medical inspection of schools, with the view to picking out the earliest cases, is infinitely better and more capable of being carried into effect than the closure of the school on the recognition of the first case, or the indiscriminate closure of schools after the attendance has fallen to 30 or 40 per cent. This should be combined with swabbing of the throats in the case of diphtheria, and the free distribution of antitoxin as a prophylactic in infected households. (2) The education of the mothers of the lower working-classes in their responsibility to their children towards uprooting the old-established view of measles as a mild disease.

E. P. Baumann (Johannesburg).

Precocious paralysis of the palate in diphtheria (‘*Rev. of Neurol. and Psych.*,’ *September*, 1906).—**J. D. Rolleston**, in an analysis of 1000 consecutive cases of diphtheria, finds that precocious paralysis of the palate is almost invariably associated with a malignant form of the disease. The term "precocious paralysis" he applies to those cases in which paralysis develops before the beginning of the third week. These cases amounted to 50 out of 162 in which paralysis of the palate occurred, the earliest day on which it was noted being the fifth. Its incidence is higher in childhood than amongst adults. It most often occurred in cases of severe faucial inflammation, but occasionally followed a mild angina. The severity of the attack, in most instances, was due to antitoxin treatment not having been given during the first two days of the disease; in a few cases the diphtheria was precociously malignant. Of the 50 cases of early paralysis 20 were fatal, while among the remaining 112 there was only one death, and the mortality for the whole series was 7·8 per cent. The concomitant symptoms were severe, and of the cases which survived 80 per cent. developed other paralyses, as compared with 53·5 per cent. among the non-precocious cases. The duration of the paralysis, also, in the early cases was longer than in the late, the average being 43·3 days as against 24·8 days. In the majority of cases the paralysis, as is the rule in diphtheria, was incomplete, the mobility of the palate being only slightly impaired, and regurgitation seldom occurring at an early stage, except in young children. In a few cases the palsy was unilateral, when it was subsequent to an angina which was unilateral or had been predominant on that side. The first indication of the palate being affected is a nasal twang in the voice, which must be distinguished from the nasal intonation due to faucial œdema and the presence of membrane. As a rule, however, the nasal twang and regurgitation do not occur until the œdema has subsided. Maingault attributed the paralysis of the palate to a disturbance of nutrition due to inflammation, but such an explanation would not apply to the paralysis of other parts, such as the eyes. Trousseau favoured the theory of systemic intoxication; Charcot and Vulpian found that the motor nerves alone were affected; while later, Hochhaus showed the presence of an interstitial myositis. To this Baginsky and Romberg ascribed the early paralyses, and the post-diphtheritic conditions to degeneration in the peripheral nerves or cells in the anterior cornua. More recently Deguy has found inflammatory lesions in cases of early paralysis, and he regards the condition as due to a diplococcæmia superadded to diphtheritic intoxication. The superficial necrosis of the fauces, taking a long time to regenerate, would account for the long duration of the paralysis; and a further proof of the influence of a local inflammation on early palsy is the fact that ocular paralysis is never precocious. In the author's cases it never started before the fourth, and sometimes not till the sixth week. T. R. Whipham.

The somnolent form of tuberculous meningitis in infants ('*Journ. de Méd. et de Chir. Prat.*,' *November* 26, 1906).—**Lafarcinade** states that tuberculous meningitis is not so rare under the age of two years as is generally supposed; it often assumes a latent form, which is liable to be mistaken. In a series of forty-two cases the writer found that more than half were below the age of two years. The disease in infants is often obscure, and is usually described as occurring in an eclamptic or a hemiplegic form. The former is characterised by convulsions, fever, rigidity of the cervical muscles, and paralysis of a hemiplegic or a paraplegic type; in the latter slight fever is followed by hemiplegia and general convulsions, rigidity of the neck, exaggerated reflexes, and coma In addition, there is a somnolent form with increasing torpor, wasting, "ocular catalepsy," and irregular pulse. By "ocular catalepsy" is meant a peculiar, fixed expression, due to the absence of blinking, the result of amblyopia and the loss of the conjunctival reflex. The patient becomes unusually quiet and sleeps almost continuously, only waking to take food. He lies with the eyes open and staring, and gradually emaciates. The pulse varies markedly in rate and is irregular. Vomiting and diarrhœa, with distension of the abdomen, supervene, and are followed later by coma. The pulse becomes very rapid and irregular, and the temperature rises towards the end. The unprotected conjunctivæ are apt to become inflamed, and death occurs in about three weeks. No treatment is of any avail. T. R. Whipham.

The thyroid gland in relation to marasmus ('*Scot. Med. and Surg. Journ.,' December*, 1906).—**J. W. Simpson** has been led by a study of the thyroid gland in conditions of marasmus to wonder whether a diseased state of this gland might not be an important factor in the induction of wasting. The pathological changes he found in the gland in ten cases were: (1) many vesicles patent but devoid of colloid, (2) a marked increase of fibrous tissue, and (3) marked cell proliferation in many vesicles. He has treated six cases of marasmus with the ordinary ward diet for such cases, and, in addition, thyroid extract, gr. $\frac{1}{3}$ or gr. $\frac{1}{2}$ thrice daily. [The dose would appear to me rather large, and may account for the diarrhœa which frequently occurred.] The results are interesting. Case 1, an infant, aged 3 months, weighing 6 lb., gained 17 oz. in two weeks, and 5 lb. in the course of seven months. Case 2, aged 3 months, weighed 6 lb. 4 oz. at the beginning of treatment, and gained 2 lb. 10 oz. in two months. Case 3, aged 4 months, weighed 5 lb. 11 oz. and gained 5 oz. in two weeks, but succumbed to an attack of pneumonia. Case 4, aged 4 months, weighed 6 lb. 9 oz., and gained 7 oz. in a fortnight. The progress of the case was interfered with owing, first to diarrhœa, and later, measles, but after the treatment was renewed she again put on weight, and when discharged had gained 2 lb. 12 oz. Case 5, aged 5 months, weighed 5 lb. 14 oz., and at the end of five months' treatment had gained almost 4 lb. in weight. Case 6, aged 4 weeks, weighed 6 lb., and at the end of five months the gain was almost 3 lb. In addition to these ward cases he has had twelve out-patients under the same treatment, eight of whom have done well, and five may be regarded as cured. He has noted that when the thyroid treatment is intermitted the children tend to lose weight until it is resumed. G. A. Sutherland.

Inorganic late systolic pulmonary murmurs in infancy and childhood ('*Amer. Journ. of the Med. Sciences,' January*, 1907).—**Hamill** and **Le Boutillier** discuss the causation, characters, and frequency of these murmurs. The murmur has the following characters: it is superadded to the first sound (which is clear), is soft, blowing, and high-pitched, rarely rough or musical in character; it occurs during the commencement of the systolic interval, and may occupy the greater part of it; it is heard in its maximum intensity close to the sternum, in the second left interspace, and over the third left cartilage, and often has a second point of intensity just above, and within, the apex; it is increased when patient is recumbent, and at the end of expiration, and is exaggerated by exercise; its area of transmission is small. The second sound is always increased in the pulmonary area, and there is always a venous hum in the neck, and frequently a systolic bruit over the carotids and subclavians. The position of the apex-beat and the area of cardiac dulness are not altered. The authors clearly distinguish this murmur from the cardio-pulmonary murmur described by German and French writers, and which has its maximum intensity at the apex, is of short duration, occurs at the end of inspiration, and often disappears when patient lies down. As regards causation, the writers believe it to be associated with the increased dilatability of the pulmonary artery, and lower arterial tension in early life. As regards its frequency the writers are in total disagreement with most authorities, holding that this murmur occurs in no less than 40 per cent. of infants under one year of age, and in 80 per cent. of children between the ages of one and three years. The murmur has no special clinical significance, and is found in healthy children not infrequently. It is not due to anæmia, and is often absent in cases of severe anæmia, but the conditions causing the murmur are often associated with anæmia.

PAUL MATHEWS (Manchester).

Gastric ulcer in childhood (*'Amer. Journ. of the Med. Sciences,' January*, 1907).—**Adler** reports a case of gastric ulcer in a girl, aged 8 years, who suffered from repeated paroxysms of epigastric pain, occurring before and after meals. On two occasions she vomited blood, and for four days had traces of blood in her stools. Beyond epigastric tenderness the physical examination showed little of note. Patient recovered under treatment. The author reviews the literature on the subject. All writers are agreed as to the rarity of the condition. Ulceration of the stomach occurs in children in four different forms: (1) Hæmorrhagic erosions, due to congestion from cardiac, pulmonary, or hepatic lesions, and in some diseases of the blood-forming system; (2) follicular erosions, occurring chiefly in infants as a result of follicular gastritis, in which ulceration and necrosis of the solitary lymph-glands may be seen; (3) tuberculous ulceration, which seems to be more frequent in children than in adults; (4) simple peptic ulceration, cause unknown. Malignant ulceration is unknown in childhood. The author reviews the various hypotheses as to causation of peptic ulcer, none of which prove sufficient. As regards site, no special predilection is observed, the cardiac end being as frequently affected as the pylorus. The chief symptoms appear to be pain and tenderness, which are often slight in acute cases, more frequent in chronic cases, and which, if intense, frequently are followed by hæmorrhage or perforation. Hæmatemesis occurred in 40 per cent. of recorded cases and in chronic cases was usually preceded by pain. Diarrhœa occurred in 50 per cent. of acute cases, and usually occurred before vomiting. Fever was noted in a considerable number of cases. The author draws attention to the large percentage (35) of cases in which perforation occurred. Other complications recorded include stenosis of the pylorus, and the production of pyopneumothorax consequent upon perforation of the diaphragm. The diagnosis is often obscure, the most reliable point being the occurrence of bleeding, as is evidenced by hæmatemesis or melæna. Both symptoms must be investigated carefully as there are so many sources of fallacy.

PAUL MATHEWS (Manchester).

Complications of tuberculous lymphatic glands (*'Clin. Journ.,' November* 28, 1906.)—According to **Theodore Fisher** tuberculous mesenteric glands, owing to an accompanying peritonitis, may form adhesions or bands, and so become indirectly the cause of intestinal obstruction. Such glands frequently become calcareous, but occasionally they break down and suppurate, with the formation of a large intra-abdominal abscess. Much commoner and more fraught with danger are tuberculous glands in the mediastinum. They are frequently the starting-point, in children, of acute tuberculosis of the lungs, and when this is the case the tubercle almost as often starts in the lower as in the upper lobe; and, indeed, not only may the lungs be infected, but a generalised tuberculosis may occur. When the mediastinal or bronchial glands are caseous the acute tuberculosis is sometimes started into activity by some non-tuberculous inflammation, such as rheumatic pericarditis, diphtheria, or measles. Enlarged glands may press upon a bronchus or one of its branches and cause bronchiectasis. Suppurating bronchial glands may open into the air-passages and even into the œsophagus; such inflammation may also extend to neighbouring vessels, and the author quotes an instance of an aneurysm of the internal carotid artery, which was the result of a breaking-down cervical gland.

T. R. Whipham.

The treatment of chorea by arsenic ('*Journ. de Méd. de Paris,*' *Sept.*, 1906).—**Parot.**—Fowler's solution is most frequently used, beginning with 5 to 8 drops, and increasing the dose each day till about 20 drops may be given three times a day. The movements generally are controlled, but sometimes grave inconvenience or serious accidents may follow too large doses. The same results may follow the use of arseniate of soda. To avoid gastro-intestinal troubles hypodermic injections have been tried, but abandoned owing to the severe pain caused by the treatment and the occasional occurrence of abscesses. The "liqueur de Boudin" is a watery solution of arsenious acid 1 in 1000, a gramme of the solution containing a milligramme of arsenious acid. It is very efficacious in chorea, but only in large doses. For example, to a child of eight years 10 grammes are given the first day, and 5 grammes are added each day up to 30 grammes, and then slowly diminished down to 10 grammes. In most of the cases signs of intolerance appear, such as vomiting, etc. Cacodylate of soda is also used, preferably by hypodermic injection. The solution contains 23·5 grammes cacodylate of soda in 120 grammes of distilled water. The dose for a child of ten to twelve years is 8 centigrammes. The advantage of this method is the avoidance of gastro-intestinal troubles, but eruptions have been noted and even one case of paralysis. Arsenical butter is prepared as follows: the amount of arsenious acid which it is intended to give during the course of treatment is taken and mixed with twenty times its weight of salt; each day one weighs out the quantity to be given and mixes it with 10 grammes of fresh butter, which is then spread on bread and given to the child. The dose is increased gradually daily for a week and then slowly reduced. For example, the first day the patient may take 0·105 milligrammes of the mixture containing 0·005 milligrammes of arsenious acid, the next day this may be doubled, and the third day trebled, and so on. The medicine is said to be perfectly tolerated in this way, and the cure to commence on the tenth day and to be complete by twenty-five days. It is necessary before treating a given case to take some facts into consideration; if the chorea have a rheumatic element salicylate or antipyrin are to be preferred. If there be a neuropathic history arsenic should be given. If the patient has had previous attacks it is as well not to give the drug prescribed on the former occasion. If the digestive tube be irritable do not give arsenical preparations. The intensification treatment is indicated chiefly when daily surveillance can be given by experts, as in a hospital. Finally the treatment should be suited to the severity of the chorea. J. Porter Parkinson.

The use of formaldehyde in scarlet fever (*'The Therapist,' October,* 1906).—**Paul Rosenberg** in the course of an article on "The Internal Uses of Formaldehyde" states that it is of great service in those cases of scarlet fever where the temperature does not fall as speedily as usual. As a consequence of its use the sequelæ and complications were hardly ever noticed. He prescribes the drug in tablets containing 0·01 gram, each combined with milk-sugar, menthol, and pepsin hydrochloric acid. One is given every half-hour for a few doses and then every two hours. The author quotes a case in which the disease appears to have aborted though the rash appeared as usual. J. PORTER PARKINSON.

Acute non-suppurative encephalitis in children (*Amer. Med. Assoc., June* 7, 1906, *'Med. Record,' Aug.* 4, 1906, *p.* 197).—**Isaac A. Abt** read a paper on this subject. He said that attention had first been called to the condition by Strümpell in 1884. The portions of the brain usually affected were the cortex (Strümpell's variety, superior encephalitis), the basal ganglia and medulla (Wernicke's variety, inferior encephalitis). There is always a tendency to hemiplegia or to epilepsy. Most of the cases with initial flaccidity give rise later to spasticity. The diagnosis lay between the condition and either an acute specific disease or a meningitis.

ERNEST JONES.

Negative cytological examinations in a case of tubercular meningitis (*Soc. Med. des Hôp., June* 8, 1906, *'Arch. Gén. de Méd.,' tome* CXCVII, *p.* 1533).—**Louis Rénon** and **Léon Tixier** performed seven lumbar punctures in a boy during the last twenty-five days of a tubercular meningitis. There was no cytological reaction on any of these occasions, but the presence of an abnormally large quantity of albumin in the fluid withdrawn militated in favour of a meningitis. Injection of the fluid into two guinea-pigs showed its tubercular nature. The authors draw the important deductions that the absence of a cytological reaction does not justify one in putting aside the diagnosis of tubercular meningitis, and that the occurrence of a large quantity of albumin in the cerebro-spinal fluid is of distinct value in making this diagnosis. In exceptional cases, such as the present one, the dissociation of these two signs may exist. ERNEST JONES.

The protection of infants and young children from tuberculous infection (*'Amer. Journ. of the Med. Sciences,' Oct.*, 1906, *vol.* CXXXII, *p.* 587). —**John Lovett Morse** gives an address on this important subject. The results of large series of autopsies show that in children under fifteen tuberculosis is present in 30 per cent. of the cases. In the first three months of life it is found in only 4 per cent., but this increases rapidly until, from the age of five onwards, it is present in 70 per cent. On the other hand, the fatality of tuberculosis diminishes with age, so that it is the cause of death in a smaller percentage of the cases in which it is found post-mortem amongst older children than amongst infants. Thus in almost every case in which it is found post mortem in the first six months of life it is the cause of death. Very little tendency to healing appears until the third or fourth years. Tuberculosis is almost never intra-uterine in origin, but an acquired, and therefore a preventable, disease. Measures for its prevention should be divided into two classes: those intended to diminish the susceptibility to tuberculosis, and those intended to prevent infection. Among the former set of measures most prominent is the prevention of measles, influenza and pertussis. Of great importance also is the careful treatment of chronic tonsillitis and cervical adenitis. Among the second set of measures the usual methods are referred to: education of the public, state control of milk supply, isolation of advanced cases, etc. By the partial application of these measures the mortality due to tuberculosis in children in New York has been reduced by 40 per cent. in the last ten years. One little-known point is referred to, namely, that the dirt beneath the nails of children under two contains tubercle bacilli in 14 per cent. of the cases. ERNEST JONES.

Treatment of laryngismus stridulus ('*Journ. de Med. de Paris,*' *December*, 1906.—**Nejay.**—The classic treatment is to give a dessert-spoonful of the following mixture: Powdered ipecacuanha, 15 gr.; syrup of marshmallow, 1 oz. This may be given every ten minutes till vomiting is produced. A hot compress round the neck may also be applied. Bromide of potassium is almost a specific; at least 7 grains daily according to age. The atmosphere of the room should be somewhat moist. The condition is rarely grave, but, if necessary, intubation may be practised, and is preferable to tracheotomy. [The abstractor does not consider this treatment complete without some treatment of the general condition: for rickets is, as a rule, the predisposing cause.] J. PORTER PARKINSON.

The treatment of erythema of the buttocks in infants ('*Journ. de Med. de Paris,*' *December*, 1906).—**Péhn.**—This erythema is generally due to contact with urine and acidity of the stools, so it is first necessary to modify the latter and produce neutral or alkaline evacuations. Alkaline mineral waters, such as Vichy water or bicarbonate of soda, may be given with each feed, and the author considers them superior to lime-water. Intestinal antiseptics, such as napthol, etc., are also useful. Feeding must be also supervised. Locally, washing should not be too frequent, and sterilised water with bicarbonate of soda (a dessert-spoonful to a pint) should be used, or else emollient infusions of marshmallow or elder. Talc which has been sterilised is a useful local application, and may be combined with oxide of zinc. If the erosive character be very marked a liniment of lime and olive oil—such as is used for burns—may be employed, while over the worst abrasions flexile collodion may be painted. The author considers the use of vaseline or lanoline as without any advantage, and dislikes starch-powders, which can easily ferment. J. PORTER PARKINSON.

Eight generations of hæmophilia ('*South African Record,*' *October*, 1906).—**John Muir** relates the following interesting account of a family suffering from this affection: Pieter W. C—, born in 1783, died of epistaxis at the age of 69. He had four daughters and five sons. The latter were healthy, and two of the four daughters had healthy children, but the other two each started a hæmophilic line with numerous subsequent cases. One of them, Elsie M—, had four sons who died of hæmophilia, one of whom had two daughters and six sons (healthy). One of these daughters lost two sons from hæmorrhage. Her sister perpetuated the hæmophilic line further; she had seven sons and five daughters; one son died of hæmorrhage; four of the five daughters had hæmophilic children. The first, Mrs. J—, had seven boys, two of whom died from hæmorrhage—one from a slight cut, the other from hæmorrhage from the gums caused by eating mealies on the cob. The second, Mrs. E—, had ten children; one died from bleeding, and another has frequent severe hæmorrhages. The third, Mrs. A—, has twenty children

—thirteen boys—three of whom have died from bleeding from very slight injuries at the ages of two, seven, and twenty-eight years; a fourth son bleeds freely and easily. The fourth daughter, Mrs. M—, has four children, all boys, and two are bleeders. In the next generation (the eighth) there are many bleeders. Mrs. J—'s daughter, Mrs. C. B—, has lost two children while infants—one from bleeding from a scratch and another from hæmorrhage from the bowel; a third is also a bleeder. Mrs. C. B—'s sister has two boys, both bleeders. Mrs. E— has a married daughter with one son a bleeder. Mrs. A— has three married daughters, two of whom have hæmophilic children. Mrs. M— has no bleeders amongst her grandchildren, but it is too early to state much yet in their cases. The hæmorrhages which have caused death in the above patients have occurred at any age from extreme infancy up to the age of sixty-nine years.

J. Porter Parkinson.

Cynopathy or morbus cœruleus (*'La Presse Médicale,' September*, 1906).—**T. Ferriera.**—The auricles are not completely partitioned off at birth, The foramen of Botal, which, seen from the right auricle, looks like a muscular ring, and from the left auricle, like a network, may be either adherent to the fleshy part of the ring or free from it, but it presses strongly against the ring owing to the excess of pressure in the left auricle. If, however, this pressure is greatest in the right auricle, the blood will flow through the foramen into the left auricle. Any disturbance of the circulation in the infant may cause this, from undue distension of the right auricle. This distension he claims to have found post mortem. In his opinion blue asphyxia is but an acute stage of cynopathy, and he recommends in this condition stimulation of the heart by hypodermic injection of camphor dissolved in sterilised olive oil. J. Porter Parkinson.

The neutrophiles in babies nourished naturally and artificially (*'Münch. med. Wochens.,'* 1906).—**Krutz** considers the neutrophilic leucocytes were increased during the first three or four days of life in infants nourished on the breast, but that this increase was much decreased when cow's milk was substituted for the human variety. Prolonged artificial feeding causes the blood-picture to approximate that of the normal adult blood. Stomach diseases and atrophy cause a decrease of the neutrophiles and an increase of the mononuclear cells. Considering the multinucleated cells as the older and protecting cells of the organism, he thinks that perhaps they produce the anti-bodies in the blood; with their disappearance there would be a large amount of this protecting substance in the blood, and with their reappearance the element of infection would be present. J. Porter Parkinson.

Blenorrhœa neonatorum due to the Bacillus coli communis (*'Montreal Med. Journ.,' October*, 1906).—**S. H. McKee** records the case of a child who, when three days old, suffered from severe swelling of the eyelids, profuse purulent discharge, and œdema of the bulbar conjunctiva. The cornea was intact. It was treated with irrigation and in five days was quite well. The culture gave a growth of *Bacillus coli communis* and a few colonies of the Xerosis bacillus. The clinical picture was that of gonococcus infection, but the course was much milder. The right eye was alone affected. J. Porter Parkinson.

Weights and measurements of infants (*'Arch. of Pediat.,'* 1906, *p.* 739).—**E. C. Fleischner** published details of careful measurements of the weight, height, circumference of head, chest, and abdomen, in normal and in badly-nourished children during the first year of life. His general conclusion is that consistent increase in weight is the primary factor in the increase in the body-measurements. In the poorly nourished age is an important factor inasmuch as the measurements increase most rapidly in the last part of the year, whereas in normal children the increase is most rapid in the first part. When the weight is below normal the other measurements are below, and when the weight is stationary the increase in the other measurements, dependent on age, is very slow. Infants of the same weight, though differing in age, present very similar measurements generally. EDMUND CAUTLEY.

Hæmorrhage in the new-born (‘*Arch. of Pediat.*,’ 1906, *p.* 682). —**T. D. Parke** reports two cases in which death resulted from free hæmorrhage into the abdominal cavity. In the first case the baby was large and plump, with cachectic, yellowish skin. Labour prompt, no asphyxia. Oozing from the cord took place within a few hours. Purpuric spots present on face and limbs. Death ensued in twenty-four hours. The abdominal cavity was filled with dark, clotted blood; ecchymoses present on the diaphragm and surface of the lungs; spleen enlarged. The second child was born asphyxiated and efforts at resuscitation had to be kept up for some time. On the third day purpuric spots appeared; temperature 102° F. and came down to normal on the eighth day. Convulsions began on the seventh day and continued irregularly till death, on the tenth day of life. Slight icterus was present from the beginning. Ecchymotic areas appeared over the body and on hard palate. Cultures from blood and organs post mortem were negative. There was no fatty degeneration of the liver, heart, or kidneys. The bleeding into the abdominal cavity probably came from the fœtal vessels, the umbilical arteries, and was not due to sepsis. In neither case was there a history of syphilis. EDMUND CAUTLEY.

Pleurisy in diphtheria (‘*Rev. Mens. des Mal. de l'Enf.*,’ *February*, 1906). —**Deguy and Detot.**—Pleurisy in diphtheria is rare, and owing to its latent character is more frequently found post mortem than clinically. It is the appanage of severe attacks. The usual time for its occurrence is from the tenth to the twentieth day from the onset of the angina. Four varieties are described, viz. dry, sero-fibrinous, purulent, and putrid. (1) The dry form is the one most frequently seen post mortem. It coincides with broncho-pneumonia or purulent and membranous bronchitis. (2) The sero-fibrinous form is often associated with broncho-pneumonia, but may occur independently, in which case it is probably due to the diphtheritic intoxication itself, since a sero-hæmorrhagic pleural effusion is one of the most constant lesions produced by the experimental injection of diphtheritic toxines. (3) The purulent form is always due to a secondary infection, usually by streptococci, which obtain entrance in order of frequency through the lungs, the blood, and the mediastinum. (4) The purulent form is always associated with gangrene of the lung. J. D. ROLLESTON.

Congenital measles (‘*Gaz. Hebd. de Bordeaux*,’ *June* 3, 1906, *p.* 260).— **Rocaz** reported such a case to the Soc. de Méd. de Bordeaux. Four other children of the same family had recently had measles, and the mother herself on delivery had the rash well developed and a temperature of 104° F. The baby's eruption was very intense on the face and scalp; it covered the arms and thorax, was more discrete on the abdomen and buttocks, and stopped short at the thighs. The conjunctivæ were reddened, the palate was slightly injected, and there was a little nasal catarrh, but no cough. The temperature was not raised. The eruption and oculo-nasal catarrh disappeared in four days. Delivery was normal, and mother and child made an uncomplicated recovery. In all previous cases the attack has been very mild, and the eruption has not reached the lower part of the body. Only seventeen cases are on record (Chambrelent). J. D. Rolleston.

Acute infective diarrhœa of infants (‘*Clin. Journ.*,’ *Jan.* 3, 1906).—**F. E. Batten** writes that this is essentially a disease of the summer months. Its characteristic features are a sudden onset, attended by frequent vomiting, frequent motions of loose, watery consistency, which in the early stage contain neither mucus nor blood, are green in colour and not offensive, producing a condition of collapse, so that the extremities are cold and cyanosed, the eyes sunken, the skin shrivelled, and the abdomen generally lax and retracted; the pulse is feeble and small, and the temperature is raised. This is the so-called "gastro-enteritis," the cholera infantum which is epidemic during the summer months. Among some 120 infants admitted thirty may be said to have presented more or less the features above described, but all presented the severe collapse associated with acute infective diarrhœa. Of the thirty cases twelve recovered and eighteen died. Of the eighteen who died two groups stand out very sharply. There are those which die in a few hours or days after the onset of symptoms. Five died within twelve hours of admission to the hospital. These children were moribund on admission and they failed to respond to any stimulation. Five lived from four to ten days and died from hyperpyrexia, convulsions, or cardiac failure. In none of these was any lesion found which would directly account for death. The second group are those which recover from the acute attack and subsequently waste away in spite of all treatment and care; it is a class of case which is but little understood. No less than eight ran this prolonged course and died without macroscopic evidence of organic disease; most of these children lived four or five weeks after the acute attack and one eight weeks. After a severe attack of infective diarrhœa the digestive organs may be so impaired that it is impossible to get the infant to assimilate its food and the greatest care has to be taken with these infants in their return to a normal diet. The later effects of an attack of acute infective diarrhœa may fall upon almost any system. It may affect with its toxins the digestive, urinary, nervous, or vaso-motor system. It leaves behind it sequelæ of no less severity than those we are accustomed to see after diphtheria, typhoid, or other specific fevers. So far as my experience goes, it is rare for an infant with this disease to pass blood in the motions; a streak may sometimes be found, but any quantity is of rare occurrence. Treatment may be placed under the following heads: (1) hypodermic injections, (2) transfusion, (3) baths, (4) stomach wash-out, (5) rectal irrigation, (6) feeding, (7) drugs, (8) stimulants. Hypodermic injections of strychnine is one of the most valuable remedies which we possess in conditions of extreme collapse: half a minim of Liq. strychninæ (B. P.) may be given every four hours. I would warn you against hypodermic injections of ether or brandy. For subcutaneous transfusion 4 oz. of saline solution is sufficient. The hot bath is a valuable remedy, gradually raised to 110° F. and mustard should be added. The fluid used for stomach wash-out has usually been a solution of sodium bicarbonate, 2 gr. to the ounce. The rectal irrigation with hot water, some 6 to

8 oz., is continued until the returning fluid is clear of mucus. The feeding is the most important part of the treatment. Milk in any form should be entirely stopped and barley-water, hot water, rice-water may be used. I have used albumin-water almost exclusively—the white of one egg with 4 oz. of water. The child, according to age, is given 1 to 2 oz. of that with 10 to 20 min. of brandy every two hours. This diet should be continued for three days and then 1 drm. of whey to each 2 oz. of albumin-water should be added and gradually increased to equal parts. Usually at the end of the first week 1 drm. of citrated milk (1 gr. of sodium citrate to 1 oz. of milk), or of peptonised milk may now be added and is increased and eventually is replaced by ordinary milk diluted to the capacity and general condition of the child. I have given raw meat-juice, various proprietary preparations and meat extracts, but almost all have been attended with failure and in most the diarrhœa has been markedly increased. With regard to drugs, during the acute stage castor-oil and calomel are alone of much service. After the stomach has been washed out 1 to 2 drm. of castor-oil are given and in only a few cases has it been vomited. In the latter stage alkalies, acids, opium, bismuth, salicylates, creasote, cyllin, β-naphthol all have their uses. Bromides are most useful in checking the restlessness of the child and often checks the slighter form of vomiting. I prefer brandy to any other stimulant—10 to 20 min. every hour or two hours with the albumin-water. In dealing with the after-effects, each case needs individual treatment according to the system most affected. In those cases in which the digestive functions have become impaired the most careful regulation of diet is necessary and this has to be continued for weeks; even so improvement is slow and relapses are frequent. One of the most fatal after-effects is the general œdema which occurs without obvious cardiac or renal lesions. It is the presence of these sequelæ which seems to me to furnish one of the strongest clinical facts for regarding this form of diarrhœa as a definite specific infection. Every care must be taken for the prevention of the conveyance of infection by the secretions or excretions of the children; for it is recognised that the congregating together of infants suffering from intestinal affections is by no means free from the risk of infection, not only to other children, but also to those in charge of such infants.

E. J. Cowen.

Pathology.

Septic endocarditis (*'Arch. of Pediat.,'* 1906, *p.* 721).—**B. K. Rachford** reports a case of septic endocarditis in a boy aged 4 years. Patient had an attack of scarlet fever, with bad sore throat, cervical adenitis, and a mild attack of endocarditis. He was discharged in sixty-eight days with a mitral systolic murmur, and good compensation. Five days later he had severe ulcerative tonsillitis, followed by septic endocarditis and general symptoms of septico-pyæmia. After five or six weeks he improved, but he then contracted measles. The endocarditis became worse and broncho-pneumonia and cancrum oris developed. Death ensued 137 days after the onset of scarlet fever. The mitral valve had an ulcer on both leaflets; the cardiac muscle was hypertrophied; spleen enlarged and pulpy; kidneys cloudy; liver enlarged. Rachford regards cases of this type as clinically distinct from the endocarditis of true rheumatism. Rheumatic endocarditis is, in his opinion, a non-septic variety. Septic endocarditis is due to organisms such as streptococci, staphylococci, pneumococci, and gonococci, and is secondary to a local infection. The prognosis is worse than in the rheumatic form, but not necessarily bad, provided that second attacks can be prevented. If the endocarditis has become *ulcerative* the outlook is very much worse. EDMUND CAUTLEY.

Blood changes in mumps (*'Arch. of Pediat.,'* 1906, *p.* 669).—**I. S. Wile** examined the blood in twenty consecutive cases of mumps and arrived at the following conclusions: Lymphocytosis is constant, is both relative and absolute, is a diagnostic feature and differentiates mumps from adenitis. It is present on the first day and until the swelling has disappeared; it is more marked in bilateral cases; it is most marked in children about puberty. Eosinophiles are slightly decreased at the beginning; the basophiles are unaffected. The average number of lymphocytes in eight unilateral cases was 56·85 per cent.; in twelve bilateral cases it was 60·83 per cent.: as compared with 41·56 and 35·44 per cent. of polynuclear neutrophiles. In eight cases of adenitis the percentage of lymphocytes averaged 35·32 and of polynuclear neutrophiles 62·75. It is important to bear in mind that the relative proportion of lymphocytes in the blood of children varies with the age. Karniski and Carstagen have given the relative percentages of lymphocytes to all leucocytes as 54 at one year, 43 at three years, 38 at six years, 35 at eight years and 31 at nine years and over. The total leucocyte count in six out of the twenty cases varied from 8500 to 13,600. EDMUND CAUTLEY.

Sarcoma of the temporal dura mater, simulating a suppurative mastoiditis (*'Glasgow Med. Journ.,'* 1906).—**Walker Downie.**—The patient, a child, aged 1 year and 9 months, was brought under Downie's care on account of a discharge from the right ear, together with facial paralysis, the latter being of three weeks' duration. The meatus contained pus and blood. The mastoid was swollen, tender, and fluctuating. The auricle was protuberant. Having made a long incision in the usual situation behind the ear, Downie opened into the swelling, to find the bone denuded of its periosteum and necrosed in areas. Masses of granulation-tissue filled the meatus, tympanum, and antrum. The granulations, softened bone, etc., were removed by the curette, and the cavities left smooth. The wound was packed, and at a later date sutured. Healing resulted, and the child went home fourteen days after operation. Three weeks later granulation-tissue had again appeared in the meatus, and the child was again examined under chloroform. The mastoid seemed well, but the meatus was filled with soft, vascular tissue, which was removed. Both this and the tissue previously removed were examined microscopically, with a negative result so far as malignancy was concerned. Ten days later the child had convulsions, and the mastoid began to swell. The wound was re-opened, and the cavities in the bone were found to be occupied by a large, fungating mass, which, when followed up to its origin, seemed to lead through a large opening in the petrous portion into the cranium. The child died a few days later. The post mortem showed that the tumour was a sarcoma, composed of mixed cells, originating probably in the dura mater over the tegmen tympani. The tumour had caused indentation and softening of the temporo-sphenoidal lobe, but had grown altogether in an outward direction, destroying the bone in its progress.

DAN MCKENZIE.

Death from enlarged thymus gland ('*New York Medical Record,' April* 21, 1906).—**J. Rooth** reports what seems to be an undoubted case in a boy, aged 18 months, who had suffered since birth from dyspnœic attacks of the nature of laryngismus stridulus. On examination during life, enlarged tonsils and adenoids were found, and arrangements were made to remove them, but before the day fixed for operation the child died. On post-mortem examination an enlarged thymus was discovered encircling the bifurcation of the trachea. On the strength of this experience, the author, discussing the theories of thymus death, whether it is referable to toxæmia or to a mechanical cause, declares himself in favour of the latter.

DAN MCKENZIE.

Honeycomb lung in relation to bronchiectasis in childhood ('*Lancet,' January* 5, 1907).—**Charles R. Box**, in an interesting paper, describes the peculiar cystic appearances occasionally found present in the lungs of children and known as "honeycomb lung." He says the cavities in such a lung may be of at least three different kinds: some are bronchiolectases; some are atriectases combined with emphysema; and some are formed by necrosis of lung-tissue. The frequency with which the bullæ project beneath the visceral pleura is in itself evidence that all are not simply bronchiolectases, for the bronchioles do not abut upon the serous membrane. The formation of a honeycomb lung is due to broncho-pneumonia. Pleural adhesion plays no part in the initiation of the condition, although it may develop later, for in many cases there is no pleural adhesion at all. Are these lungs, he asks, the antecedents of the chronic bronchiectases of childhood and later life? Some, at least, of these cases seem to arise in this way. The shape, grouping, and communications of the cavities are similar in the two cases; even the falciform septa may be recognised. There is also ample evidence from cases recorded by different observers that the chronic bronchiectases of children frequently conform to the saccular type, and the clinical history invariably shows that the condition dates from an attack of measles, whooping-cough, or broncho-pneumonia. Cases of bronchiectasis occurring in childhood fall into three distinct classes: (1) those in which honeycomb lung is present, but in which the lung condition cannot be recognised clinically, because the antecedent inflammation has subsided; (2) those in which considerable broncho-pneumonia co-exists with the honeycomb lung, and in which the signs are well-marked; (3) those of longer standing in which we find shrinkage of the lung, displacement of the heart, and clubbing of the fingers. The symptoms in advanced bronchiectasis are cough, dyspnœa, and copious expectoration. There is usually some clubbing of the fingers. The expectoration is rarely fœtid. Hæmoptysis occurs occasionally. Tubercle bacilli are absent. The temperature varies in different cases very much. General nutrition is usually well maintained. The physical signs vary very much. The results of Röntgen ray and fluorescent screen examinations vary with the amount of pus present in the lung. The commonest complication is recurrent pulmonary inflammation. Sepsis with fœtid sputum is unusual. In advanced stages bronchiectasis is apt to be mistaken for empyema or for pulmonary tuberculosis. As regards treatment, the best drugs are garlic, creasote, turpentine, and ol. morrhuæ. Surgical drainage has been practically abandoned. The indications for climatic treatment are similar to those in bronchitis. A warm, dry, and equable climate is a great aid to treatment.

JAMES BURNET (Edinburgh).

Influenzal meningitis in an infant, aged 10 months (*'Lancet,' January* 12, 1907).—**J. Sholto Douglas** describes the case of a female infant, aged 10 months, who was admitted to St. George's Hospital under Dr. H. D. Rolleston's care, with a history of two days' rigidity, general pains, and irritability. She had no cough, fits, or diarrhœa. She screamed almost every half hour. Kernig's sign was present, and slight rigidity of the neck muscles, but no obvious head-retraction. There was increase of all the deep reflexes, but no clonus could be made out. The abdominal and epigastric reflexes were absent, while the plantar reflex was of the extensor type. The temperature was 101·2° F., the pulse 136, and repirations 48 per minute. Four days after admission the patient became semi-comatose, and had slight squint, owing to paralysis of both external recti muscles. Lumbar puncture was performed, and in the fluid were found many feebly-staining, fine, short bacilli, which, culturally and microscopically, corresponded with the influenza bacillus. Spasms of the limbs accompanied by opisthotonos then set in, and death occurred on the fifth day after admission to hospital. Autopsy revealed a condition of meningitis. The brain was much swollen, somewhat softened, and its convolutions were flattened. Under the pia mater was a quantity of thick, green pus, which was distributed along the line of the blood-vessels, both over the vertex and the base. The lateral ventricles were not distended. Covering the posterior and lateral aspects of the spinal cord was a thick layer of pus, extending throughout its length. The anterior surface of the cord was free from inflammatory exudate. Dr. C. Slater examined the cerebro-spinal fluid, taken by lumbar puncture during life, and found no tubercle bacilli present. He also examined the pus obtained at the autopsy. Smear preparations of this revealed the presence of organisms resembling Pfeiffer's bacillus. Thus it would appear that this is the first case reported in this country in which the organism of influenza has been obtained in culture both from the cerebro-spinal fluid during life and from the meningeal exudate after death. The additional interest in this case lies in the fact that the patient was an infant. James Burnet (Edinburgh).

Recent studies in measles (*'Amer. Med.,' June,* 1906).—**R. C. Rosenberger** states that many observers, by simply applying the blood, tears, or mucus from the nostrils or bronchi to scarified areas, have tried to bring about the phenomenon of measles, but generally without success. Many authentic cases exist, however, in which positive results were obtained by inoculation of healthy subjects with the blood from cases of measles. As to the nature of the specific cause of measles, many attempts have been made at its identification. Some observers have isolated a bacillus, others a coccus, and others, again, claim to have observed animal parasites. The writer made a number of observations upon the serum obtained by blistering over the eruption in the early stage of the disease. Upon examination of this fluid a more or less constant body was detected, possessing the following characteristics: In size it varied from one tenth to one sixth of the diameter of a red blood-cell; it was generally spheroid, whilst ovoid or pyriform shapes were also seen; it was perfectly hyaline, and had attached to it a round or irregularly oval-shaped granule of a brownish-black colour, which was actively motile. This granule travelled around the entire periphery of the hyaline body in a most deliberate manner, stopping every now and then and appearing to try to gain entrance into the body. In two or three instances one or more flagella were seen. In the same specimen of serum another hyaline body, containing from two to four small motile granules, was occasionally seen. The first hyaline body was observed in thirty-nine out of forty-one cases of measles examined, usually on the second day of the disease. In the two negative cases the serum was not examined until the fifth day of the eruption, when it was fading. In these instances the second body was seen, the granule being situated excentrically within the hyaline body. Attempts at cultivation of the body proved negative. Although the nature of this cell is problematical, it seems to possess characteristics sufficiently constant to enable it to be classed amongst the cytorycytes. The writer does not claim that this body is the cause of measles, but considers its almost constant presence an interesting and suggestive phenomenon. No similar bodies were identified in normal serum, in the serum from a few cases of scarlet fever, or in that from a number of cases of syphilis. E. P. Baumann (Johannesburg).

Therapeutics.

On white-wine whey in infant feeding (*'Lancet,' January* 12, 1907).—**Bernard E. Myers** and **Still** state that sherry whey must hold a high place as an occasional mode of infant feeding. The curd from sherry whey is flocculent. An analysis of sherry whey, made according to their own special method, is as follows: proteid 0·45 per cent., consisting almost entirely of easily digested lactalbumin, fat 0·95 per cent., and sugar about 5 per cent. The nutritive value is, therefore, low. It possesses, however, marked carminative properties, due, doubtless, to the presence of essential oils or volatile ethers. Sherry whey has a markedly acid reaction, which is sometimes beneficial in infant feeding. Sherry owes its acidity chiefly to the presence of tartaric and acetic acids, and its curdling action upon milk is due to this acidity. Sherries vary in acidity. Cooking sherry should always be used, and, moreover, it contains less alcohol. The mode of preparation recommended is to take ten ounces of milk and heat until just boiling. Then add two and a half ounces of cooking sherry, and heat again until the mixture actually begins to "boil up." It should then be removed from the fire, and allowed to stand for three minutes. The curd must then be strained off through a two-fold layer of butter muslin. Whey prepared by this method contains 2·28 per cent. of alcohol by weight. In using sherry whey we must, therefore, remember that it is a food which contains a considerable quantity of alcohol. It is indicated in those conditions where only small quantities of food can be tolerated, and where a stimulant is necessary. The quantity that can be given is limited chiefly by the proportion of alcohol which it contains. At any period of infancy it is seldom desirable to exceed from two to two and a half ounces of sherry whey at a feed. James Burnet (Edinburgh).

Treatment of infantile diarrhœa with "lactated milk" (*'Clin. Journ.,' December* 19, 1906).—**Batten**, in a lecture on infantile diarrhœa, gives his experiences of the use of "lactated milk," *i.e.* milk in which lactic acid fermentation has been artificially produced. Metschnikoff pointed out that some lactic acid-forming organisms have the power of inhibiting the growth and action of certain pathogenic and putrefactive organisms. It has consequently been suggested that the administration of lactic acid bacilli might inhibit the organisms which give rise to diarrhœa, these bacilli having been shown to pass through the stomach and to grow in the small intestine. The use of milk which has undergone lactic acid fermentation dates from ancient times. Kumiss, which is prepared by the Arabs from mare's milk, is well known, while butter-milk and dicke Milch are to be found nearer at home. Herter, also, has found that intestinal putrefaction is greatly diminished by the presence of the lactic acid bacillus, as shown by the reduction of indican and ethereal sulphates in the urine. The reason why lactated milk rather than lactic acid itself is employed is that lactic acid fermentation in milk produces some change in the casein—possibly its conversion into albumose, or some form of peptonisation which renders it more digestible—and that a far larger dose of lactic acid can be administered in this manner. Lactated milk is prepared by boiling fresh milk in a saucepan or steriliser, and then cooling it down in a sterilised, stoppered bottle to 96° F. To 11 oz. of milk one tube (about 3 drs.) of "lacto-bacilline" is added. "Lactobacilline" is fluid milk containing the lactic acid-forming organisms—the bacillus and streptococcus acidi lactici—and can be obtained from Wilcox, Jozeau & Co. The milk is then kept at 96° F. for seven hours, during which time the milk becomes sour and a slight clot is formed. It is then cooled on ice for twelve hours and is ready for use. Such milk has a creamy consistency and a slightly sour taste, which is quite agreeable. The results from feeding with lactated milk, the author found, were a marked improvement in the conditions of the stools in certain forms of diarrhœa, especially in the more chronic forms and in cases of colitis, and in the catarrhal condition following the acute infective diarrhœa of infants (in the acute stages it has no beneficial effect), and that children who could take no other form of milk could often take and retain the "lactated" form. Though the author had a high percentage of failures, it was not higher than with other forms of treatment, and he believes that the preparation is well worth a more extended trial. T. R. Whipham.

Diphtheritic paralysis ('*Arch. de Méd. des Enf.*,' *August*, 1906).—**Comby,** who has previously drawn attention to the value of antitoxin in the treatment of diphtheritic paralysis, now reports some more cases. In all such paralyses he advocates the free use of antitoxin, no matter whether the primary diphtheria was so treated or not. It is of importance that the dose should be large enough, and repeated if necessary. No untoward effects of the late administration of antitoxin have been observed.

T. R. Whipham.

The treatment of migraine in children by thyroid gland ('*La Clin. Infant.*,' *Nov.*, 1906, *No.* 21, *p.* 668).—**H. de Rothschild** and **L. Levi** showed at the Societé des Hôpitaux a boy aged 11 years whose mother had been migrainous since childhood, and in whom the attacks were menstrual, and disappeared during three pregnancies. The patient had had migraine since the age of two, the attacks being attended by a feeling of cold, photophobia, headache on right side, and nausea, and occurring every two or three days, and lasting about twelve hours. No drug had produced any amelioration, and the patient was nervous and flabby. Treatment began on January 19 by administering nine cachets of thyroid gland, 0·10 centigr., during the first week. He had no attacks after the 24th, and the cachets were continued twice daily. By the end of March he only suffered from occasional slight headaches. In April he had an attack of grippel bronchitis, which caused headache but no migraine. He took about eighty cachets altogether.

Vincent Dickinson.

Otology, Laryngology and Rhinology.

Frontal sinusitis in children as a sequela of the acute infectious fevers (*'Arch. f. Kinderheilk.,'* 1906, *vol.* XLIV, *p.* 306).—**Gustav Scholle**, of Moscow, in a valuable paper, insists on the importance of this complication. It is necessarily rare in children, for the sinus is not fully developed until the fourteenth or sixteenth year; it is, however, sometimes of large size by the eleventh or even the ninth year, but is not found under seven years of age, the youngest recorded case of frontal sinusitis being in a patient aged 7 years. Wolff examined post mortem the sinuses of twenty-two patients who died of diphtheria, six who died from scarlet fever, and five from measles, and concluded that the nasal sinuses were always affected in these diseases, the condition varying from one of simple catarrh to severe inflammation. Frontal sinusitis has been observed in children after measles, diphtheria, scarlet fever, and influenza. The author describes two very instructive cases of his own. Case 1: A boy, aged 10 years, had measles, followed immediately by scarlet fever with bilateral otorrhœa. Three weeks after the onset of the scarlet fever a swelling of the right upper eyelid appeared, with some displacement of the eyeball. This, together with fœtid otorrhœa and fever, suggested thrombosis of the venous sinuses; a radical mastoid operation was performed on the right side, and the patient died four days later. Post mortem: Acute suppurative meningitis, which was especially marked over the cribriform plate and right anterior fossa, suggested examination of the frontal sinuses; that on the right side was found to be large and full of thick yellow pus, whilst its walls were rough and eroded; the venous sinuses were free from pus; both petrous bones showed purulent inflammation, but there was no communication between the mastoid operation-wound and the cranium. Case 2: A girl, aged 9 years, had scarlet fever, followed, a week after defervescence, by discharge from the left ear. Seven days later there was a rigor, which was repeated with intermittent fever for several days. After nine days the left knee became swollen; the diagnosis of pyæmia was made, and the child died at the end of three weeks without any sign of implication of the frontal sinus. Post mortem: Early suppurative meningitis was found; the mastoids and petrosals were free from pus. The base of the skull in the anterior fossa appeared darkened in colour, and on examination the right frontal sinus was found full of pus, while the left sinus contained a little fluid; the maxillary antra were healthy. These two cases show well the difficulty of diagnosing this complication in children, which remained unsuspected during life in both patients. As diagnostic signs the author mentions tenderness on pressure on the floor of the sinus, occasionally with a sensation of yielding of the wall, and a flow of pus into the nose; also redness after percussion over the sinus, which is more marked and persists longer than on the sound side. No doubt such cases are frequently overlooked, hence the importance of bearing in mind the possibility of this cause of septic intoxication after the acute infectious fevers. HAROLD BARWELL.

Surgery.

Treatment of the spastic cerebral palsies of children (*'Deutsch. med. Wochens.,' May,* 1906).—**Hoffa** divides these cases into two groups—the diplegic and the hemiplegic. Cerebral diplegia may be of maternal or infantile origin. There are three recognised forms: (1) Little's disease, in which the lower extremities alone are spastic, and there is usually a convergent strabismus. Premature birth occurs in one third of the cases, and the lesion may be due to syphilis. If this is excluded primary agenesis of the pyramidal tracts must be assumed. Another cause is injury by forceps or pressure during a difficult labour. The prognosis is not so bad as in the other groups. (2) A generalised spasticity of all the limbs, the origin of which may be found in obstructed labour and its consequences, post-partum injury and infective diseases (including syphilis). In addition to the spasticity of the limbs there are cerebral symptoms, such as deficient intelligence, blurred speech, ocular paralyses, and epileptic attacks. Irregularly distributed lesions are found in the upper part of the central nervous system, and the prognosis is bad. (3) Bilateral athetosis, in which, again, obstructed labour is an important factor, though in some cases the symptoms do not come on until some years after birth. The cerebral cortex appears to be chiefly affected, and the prognosis is intermediate between the other two. Numerous transitional forms appear, and the lesions which produce cerebral diplegia are various, but interruption, not amounting to total destruction, of the pyramidal tract somewhere within the brain is invariably present. The disease remains stationary or improves; it is hardly ever progressive. The object of treatment is to prevent the action of the lower neuron and to strengthen the upper neuron. To lessen the spasm tenotomy is usually required. In Little's disease the tensor vaginæ femoris, the adductors of the thigh, the hamstrings, and the tendo Achillis are usually implicated. The tense fascia lata should also be nicked. The quadriceps extensor tendon may also have to be divided above the patella. To correct talipes tendon transplantation may be required in addition. Plaster-of-Paris bandages are applied from the pelvis to the feet, the thighs being fixed in an extended, strongly abducted, and slightly everted position, the knees extended, and the feet at right angles in a slightly valgus or varus position as may be required. The sutures are removed on the eighth day through windows, and the plaster bandages in a month or six weeks. The limbs are then placed in splints, which are removed daily for massage and exercises. In the second form operative treatment may be employed when there is no serious psychical trouble, but massage and exercises are always useful. Athetosis may be improved by fixation of the head, body, and limbs in a suitable apparatus. Cerebral hemiplegia may be due to many causes. Antenatal factors may be latent until some cause, either at birth or later, brings them into play. The condition is invariably due to some vascular lesion, which may be due to hereditary syphilis, injury to the abdomen sustained by the mother, meningitis or encephalitis, cerebral hæmorrhage, embolism, or thrombosis. Difficult labour or forceps delivery may be exciting causes. The symptoms usually begin during the first year, and are sometimes apparent immediately after birth. The paralysis is either a weakness in the arm and leg or has an onset accompanied by convulsions and unconsciousness—perhaps after an acute infective fever. It is at first flaccid, but subsequently becomes spastic, especially in the distribution of the musculo-spiral nerve, the forearm being flexed and pronated, with the wrist flexed, the hand bent to the ulnar side, and the thumb flexed over the palm. The knee is slightly flexed, and the foot is in an equinus or equino-varus position. In many cases there is facial paralysis, with spasticity, and there may be ocular paralysis, hemianopsia, contraction of the visual field, nystagmus, or optic atrophy. The trunk muscles may be involved, giving rise to scoliosis, and hemianæsthesia is sometimes met with. In the milder forms massage, exercises, and a weak galvanic current may cause improvement. Marked spasticity should not be treated by operation as early as the flaccid varieties: if it is the chief factor tenotomy of the most spastic muscles should be employed. In cases of marked paralysis the spastic muscles may be transplanted to the paralysed, or the tendons of the flaccid muscles shortened. In the lower limb the tendo Achillis and the hamstrings may require division. The after-treatment is the same as for cerebral diplegia. Suitable tendon operations usually cure the spasm and tend to prevent the onset of post-hemiplegic chorea. T. R. WHIPHAM.

The forcible correction of scoliosis (*'Wien. med. Presse.,' April* 1, 1906).—**Schanz** gives his experiences of the forcible correction of this deformity, and maintains that the method has not received the recognition it deserves owing to its use in unsuitable cases. The child must be in a hospital or home for at least two months, and after that great care must be taken to prevent a relapse. Relapses may be prevented if the cause of the deformity is treated as well as the deformity itself. Primary relapses are due to the tendency of the body to return to its original position, when the plaster-of-Paris jacket, which is applied after making the correction, is taken off. Secondary relapses are due to the existence of paralytic influences. Over-correction of the deformity to prevent a primary relapse is not possible; indeed, complete correction is not often obtained. The plaster jacket should be replaced after three months by a spinal corset with head-support during the day, and only be worn at night, so as to obviate atrophy of the spinal muscles and danger of a secondary relapse. After a further period of one to three months the danger of a primary relapse is past. The tendency to a secondary relapse must be met by the use of the corset and head-piece together with massage and gymnastic exercises.
T. R. WHIPHAM.

The inconveniences of picric acid as a dressing for burns in children (*'La Clin. Infant.,' Sept.*, 1906, *No.* 17, *p.* 544).—**M. E. J. Eliot** states that children appear to be more susceptible than adults to intoxication by picric acid dressings when applied to large surfaces, and that it is prudent not to employ large dressings, and not to continue their use too long. He quotes the case of a girl, aged 14 years, who had burns of the second and third degree on the limbs, chest, and face, which were treated by picric acid dressings, the first effect of which was to produce a distinct amelioration. Seven days later the tongue became coated, the lips dry, the expression anxious, and the temperature, hitherto normal, rose to 39° C.; the pulse increased from 88 to 154, the respiration being 29. The conjunctiva and skin became yellow, and a morbilliform rash appeared on the sides of the chest, the buttocks, behind the thighs, and on the inside of the knees. The urine was red, with a greenish surface. The blood showed a marked diminution of red cells and an increase of eosinophiles. All these symptoms lessened as soon as boric acid dressings were substituted. A number of analogous cases show that picric acid dressings are not without danger, but cause, like other derivatives of benzine and phenol, a kind of methylhæmaglobinæmia. VINCENT DICKINSON.

Imperforate œsophagus (*'Rev. Mens. des Mal. de l'Enf.,'* XXIV, *p.* 453).—**Ch. Dam** classifies the cases of this abnormality as follows, giving the number of cases in each class from fifty collected by Legrande (*'Thèse de Paris,'* 1897).—(1) Obstruction by a membrane or diaphragm (two cases). (2) Complete obliteration, both portions of the œsophagus ending in a *cul-de-sac*: (*a*) no opening into air passages (four cases); (*b*) the lower part of œsophagus opening into the trachea (forty-two cases); (*c*) opening into the right bronchus (two cases). Thus, in the large majority the œsophagus communicates with the trachea a little above the bifurcation, the opening being usually by a narrow, infundibuliform canal. The author adds two cases, both of which fall into this group. The upper *cul-de-sac* is usually much the larger and measures about 4 cm. in length, thus ending 11 cm. from the teeth. The two *cul-de-sacs* are frequently connected by a tract of connective tissue. *Symptoms*: The child takes the breast with avidity, but after a few sucks shows signs of suffocation and rejects all the milk swallowed; it is not coagulated, and is preceded and followed by mucous sputum mixed with milk. After the evacuation of meconium there is no further action of the bowels. Signs of pulmonary congestion and broncho-pneumonia often develop. In one of the author's own cases there was cough immediately after birth with expectoration of mucus, which is almost unknown in the new-born infant, and râles in the chest coinciding with, or terminated by, vomiting of mucus. As to treatment, gastrostomy is advised in the hope of being able to remedy the defect later; it has not so far been successful in consequence of the opening into the trachea, which allows regurgitation into the air-passages. To avoid this, jejunostomy has been performed, but does not permit of gastric digestion.

Vielliard and **Le Mée** ('*Ibid.*,' XXIV, *p.* 555) report a case with typical symptoms. The œsophageal tube passed 10 cm. from the teeth. Gastrostomy was performed and the stomach found to be dilated. The first milk introduced caused cough, and some returned into the mouth, but feeding was found to be possible in the vertical position without regurgitation into the trachea. Nevertheless, death occurred on the following day. The upper *cul-de-sac* was 3 cm. long; the lower œsophagus opened directly into the trachea 1 cm. above the bifurcation, and had no connection with the upper œsophagus. HAROLD BARWELL.

The maxillary antrum at birth ('*Ann. des Mal. de l'Oreille, etc.*,' XXXII, *No.* 9).—**E. Weissmann** and **L. Fiocre** state that this cavity exists at birth; according to **Sappey** it develops in the third to fourth month of fœtal life. At term it measures 7 to 8 mm. from before backwards, 4 mm. in height, and 2 mm. in breadth; at six months it measures 10 to 11 mm. by 5 to 6 mm. by 4 mm. Empyema has been reported at the age of three weeks (three times), at five weeks, and eight weeks. As to operative treatment, the authors condemn the alveolar route, which is far removed from the sinus at this age and which involves the destruction of several teeth. The nasal route is also impracticable in young infants. The cavity should be opened from the facial surface, and is found in infants internal to and a little above the infra-orbital foramen, which should be used as a guide.

HAROLD BARWELL.

Review of Book.

REPORT OF THE EDUCATION COMMITTEE OF THE LONDON COUNTY COUNCIL, SUBMITTING THE REPORT OF THE MEDICAL OFFICER (EDUCATION) FOR THE YEAR ENDED MARCH THE 31ST, 1906. Pp. 52. King and Son. 1s.

THE general features of these valuable Annual Reports of Dr. Kerr's have been described in reviews of former numbers, so that only a description of the contents of the one now before us is called for here.

In the year, 2934 employees, chiefly teachers, and 4000 scholarship students were medically examined, but, owing to the inadequate staff, this was done so perfunctorily as to be of value only for the specific purpose of the examination; the important general results that would accrue from the systematic observation of such a large number of individuals had therefore to be sacrificed. In the year, eighty-three visits a week were paid to various schools by the medical officers—a considerable increase over previous years. Anthropometric measurements of some 20,000 children are given, but the conclusions are only of very general interest, as there is no system in operation for the repeated observation of individual cases, without which the results are deprived of most of their value. Feeding experiments were carried out on 1045 children, but with no great regularity, so that the data was found to be not extensive enough to yield definite conclusions. Numerous observations were made on the condition of the teeth in school children, going to confirm the known fact of the enormous prevalence of untreated caries in children.

Dr. Rountree investigated 14,098 children in elementary schools, with a view to determining whether many cases had been overlooked by teachers in their selection of children for the special physically defective schools. He found 105 such cases, of which paralyses and rickets accounted for a third each. Mr. Elmslie examined 2643 children from the special point of view of rickets; the main point resulting from this investigation was the extraordinary rarity with which the effects of rickets can be detected after the age of ten as contrasted with their great frequency at the ages of three or four. Dr. Hogarth, in investigating the causes of "backwardness in standards," found that physical defects were responsible for 20 per cent. of the cases mainly and 11 per cent. partly.

Dr. C. J. Thomas inquired into the conditions of 400 boys employed out of school hours. Frequently this work began at 5 a.m. and was carried on till past midnight; in many instances the boys concerned were as young as seven. The ill-effects were carefully tabulated, and special stress laid on the heavy Saturday work. It is pointed out that the best boys, physically and mentally, tend to be specially selected for this harmful strain on their capacities.

The head-cleansing scheme is bearing good fruit, according to the accounts given by the charity societies. 1511 cases were proposed by the nurses for exclusion with a view to prosecution, and in 101 instances the fines were inflicted on the parents. Dr. Bertram Abrahams examined 22,000 children individually with a view to determining the presence of favus; 66 cases were detected. As the cases are permanently excluded, the condition being looked upon as incurable, a special school containing 61 cases has been opened for their education. Special ringworm schools are eminently desirable, and their establishment is urged in the report.

The incidence of infectious fevers, and their relation to school closure, is fully discussed. The most important advance has been the decision of the Council, supported by the metropolitan medical officers of health, not to re-admit any child after diphtheria without a certificate of recovery based on a bacteriological examination. The new rules concerning school closure for measles, based on Dr. Thomas's Woolwich experiments, and described in the last report, have now been put into force, and work successfully.

Dr. Kerr, in discussing the difficult problem of prescribing glasses for children, has some strenuous remarks to make on the lack of appreciation of the circumstances that is sometimes displayed by hospital ophthalmic surgeons.

In the year, 5554 children were seen at the examinations—415 in number—held to decide whether certain children should be sent for instruction to one of the different classes of special schools. Of this number, 1059 had to be excluded as being epileptic, invalid, or imbecile, 1838 were sent to mentally defective schools, and 819 to physically defective schools. In this connection the most pressing need that exists for the provision of epileptic children is emphasised, and the present extremely unsatisfactory state of affairs again pointed out; 85 per cent. of such children are written off the books, and frequently run the streets, having no supervision or treatment. Miss Sayer has inquired into the family conditions of 100 mentally defective children, and the scheduled results are compared with those obtained from 100 normal children. Poverty, drunkenness, and mental deficiency exist in the parents of the former class much more frequently than in those of the latter, but obviously such factors act in many ways apart from direct heredity, so that such results have to be interpreted with great care.

Dr. Hogarth investigated the causes of "backwardness in standards" in the case of 2900 children—a number that is equivalent to a third of the children attending the schools in question. Six hundred of these cases were investigated in detail. Of these, 61 per cent. were intelligent, so that their backwardness were due to extrinsic causes, such as ill-health, etc. Thirty-nine per cent. were dull children, and the urgent need of special "intermediate" or "backward" schools for such children is pointed out. At least 10 per cent. of all children are unfitted for instruction in the ordinary elementary schools.

A final section describes the baths that have been instituted in various continental schools, and the need there exists for their adoption in this country.

Throughout the volume is ample evidence seen that the medical work carried out under the L.C.C. Education Committee is continuously growing in both importance and extent. It would seem that the time is now ripe for this work to be presented in a more suitable form than is at present adopted. The Official Report now before us is necessarily limited in size, and is mainly a brief summary of the work done. On account of the unattractive appearance of such reports we doubt whether many of the medical profession ever acquaint themselves with their contents. This results in a great restriction of their value. If the Council were to establish a periodic journal as 'Archives of Child Study' on similar lines to their present 'Archives of Neurology' we feel sure that considerable public gain would ensue. Further details of the medical researches could then be published in the form of individual contributions, which could be oriented by general reviews of the subjects under discussion. There remains, of course, a gigantic field for exploration along the paths now being opened up, and the results would have immediate value in their application to child-care and education. In the present work there is no mention of any medico-pedagogic investigations, nor is there any indication of any researches into the condition and capacities of any of the 10,000 mentally defective children under the Council's charge. In Germany alone there are seven journals specially devoted to this last subject. We are now, however, being led too far from the matter of the Report in question, which we may summarise as being a worthy successor to its predecessors.

Ernest Jones.

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EPILEPSY IN CHILDHOOD; ITS RELATION TO OTHER DISEASES.

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Thesis for Degree of M.D.Cantab.

In the present thesis it is proposed to consider epilepsy in childhood, not in its entirety, but as related to other diseases, in the following aspects : pathological, etiological, familial, and symptomatic. These various headings will be illustrated by statistics obtained from 150 cases of epilepsy, and notes of some of these will be cited. I am indebted to Dr. F. J. Poynton for his kind permission to make use of these cases.

The Subject Considered Pathologically.

The convulsions of epilepsy have an abnormal cortex cerebri as their origin. It has been found by experiments on the lower animals that repeated alternating induced electrical stimulation, produces a greatly augmented irritability of the cerebral cortex, especially of that of the cat (François (1), Franck (2)), and monkey (Ferrier (3)). Further stimulation produces what is known as the epileptic reaction. This lasts longer than the stimulation, and there is a tendency for it to spread over the whole muscular system. Both tonic and clonic types of convulsions are obtained (unlike stimulation of hyperexcitable spinal motor cells, when clonic contractions alone are produced), and frequently the subsequent coma. In addition, dilatation of the pupils, increase in the salivary secretion, and contraction of the muscular walls of the bladder, with, sometimes, micturition, are obtained.

This is the theory which is almost universally held at the present day. There are, however, many different views as to the exact seat of the lesion in epilepsy, its nature, and its direct and indirect cause.

According to the neurone theory of the histology of the cortex cerebri, as enunciated by Waldeyer (4) and Ramón y Cajal (5), the nerve cells are contiguous, rather than continuous, by means of their processes. The dendrites have knob-like endings, and their terminal portions bear projections, or gemmules, on their surface. These gemmules are also placed in apposition to the bulbous ends of the axites, or collaterals, of the axon, of the same and other nerve cells (6). It is believed by Gowers (7) that the dendritic endings consist of two parts, active hyaloplasm and supporting spongioplasm, in this way simulating striped muscle-fibre. The nerve cell is traversed by fibrils (8), some of which can be traced from one dendron to another, while others pass from one dendron to the axon. Applied to these fibrils within the cell are the fusiform bodies first described by, and named after, Nissl (9). With regard to the functions of the various component parts of the neurone, it appears that the dendritic knob-like endings have the power of contractility, and in this way govern the number of gemmules along the terminal portions of the dendrites, by altering the amount of hyaloplasm within the spongioplasm. The conducting power of the dendrites was first suggested by Ramón y Cajal (5), and this theory has been developed by von Gehuchten (10) and Lugaro (11), who consider that the dendrites conduct in both directions. A functional connection is probably normally present between the gemmules of the dendrites and the axites of the axon, either at their bulbous endings (6) or along their whole course (12). The function of the Nissl bodies is, perhaps, to increase the potential of the impulses reaching the cell (13).

Epileptic convulsions are probably due to an alteration in function of the dendritic endings. It may be that there is a developmental weakness in the nervous system, and especially in the synapses of the cortical nerve cells, including the axites, which are the last fibres to become myellinated. This would diminish the inhibiting action of the cortex cerebri, which is probably one of its most important functions. Thus Dercum (14) (quoted by Hare (15)) in nearly all of twelve autopsies on epileptics found "evidences of mechanical hindrance to brain development." Added to this, there may be some alteration in the nutrition of the nerve plexuses, which affects the degree of their contiguity. This may be the result of some modification of their vascular supply, as by a thrombus. Thus John Turner (16) has shown that there is a special tendency to blood clotting immediately before an epileptic attack. Mott (17) considers an alteration in the chemical nature of the lymph environment to be the immediate cause. He describes changes he has found in the cortical cells in a case of status epilepticus, which include enlargement of the perineural lymph spaces, together with profound chromatolysis (13). Donath (19) has found choline in the cerebro-spinal fluid of epileptics, and considers its presence instrumental in causing the convulsions. It may be, however, that the profound cellular changes found by Mott and the choline discovered by Donath are the results of seizures rather than their cause; they may be fatigue products, and not the exciting agent.

The post-mortem changes that have been found in cases of epilepsy consist chiefly of a diffuse sclerosis of neuroglial fibrils, together with, in many cases, some degree of meningitis (Andriezan (20), Baird (21)).

Cerebral diplegia.—Frend (22) suggests that the same morbid process produces idiopathic epilepsy and cerebral diplegia, though to a slighter degree in the former, namely, slow degeneration of cortical neurones, followed by destruction.

Chorea.—Pathologically, the disease to which epilepsy is known to bear the closest resemblance is chorea. In acute chorea the same chromatolysis in the cells of the cerebral cortex has been found (23), and though its immediate cause in this affection is a known specific micro-organism or a toxin, still, the effect of the poison is probably the same, the choreiform movements being due to an alteration in the functional arrangement of the dendrites and axites. The age-incidence of chorea, being similar to that of epilepsy, points to the possibility of some lack of development of the cerebral cortex being a factor in the causation of the choreiform movements, just as it appears to be in the production of the convulsion. In support of this view it may be said that in cerebral diplegia movements may persist, which are exactly similar to those found in rheumatic chorea.

Paralysis agitans.—Akin to the movements of chorea are those of paralysis agitans. Little is known of the pathological anatomy of this disease, but it seems probable that a senile degeneration of the dendrites of the neurons of the cerebral cortex takes place, resulting in the characteristic tremors of this affection.

Neurasthenia.—The pathology of fatigue of the central nervous system has given rise to considerable diversity of opinion. Mott (24) considers that neurasthenia may be due to the presence of an excess or deficiency of some chemical substance in the matrix, from which the synapses of the neurones gain their nourishment. In this way all the paroxysmal psychoses may closely resemble epilepsy.

Myoclonus.—The pathology of myoclonus epilepticus (die progressive myoklonus epilepsia of Unverricht (25)) is apparently very similar to that of epilepsy. There is cell degeneration, as found by Clark and Prout (26), chiefly in the third or pyramidal layer of the cerebral cortex, though they found it also in the second layer, which is the position of the greater part of the changes in epilepsy.

Migraine.—Little is known of the pathology of migraine, but it seems extremely probable that it is closely allied to that of epilepsy. This is borne out by the similarity of the symptoms, and by the hereditary substitution of the two diseases. These questions will be considered later. Liveing (27) has said that migraine is the "sensory equivalent of a true epileptic attack."

This view of the pathology of migraine is, however, by no means universally held. Thus, Lopez (28) considers it to be due purely to a reflex disturbance of the extra-ocular muscles, producing an exophoria with defective convergence and accommodation.

THE SUBJECT CONSIDERED ETIOLOGICALLY.

The development of epilepsy in the individual frequently appears to depend on at least two factors. In the first place, the cortical cells and their processes must be in an hyperæsthetic condition, and, in the second place, the necessary stimulus must be present. It is possible that one and the same lesion may produce both these conditions, but it seems probable that convulsions are caused by stimulation of an abnormal cerebral cortex.

Rickets.—Apart from a developmental, inherited defect, which will be considered in detail in the next section, rickets, or one of its manifestations, is an important factor in preparing the way for the onset of epilepsy. In the 150 cases investigated, a definite history of rickets was obtained in twenty-eight. But apart from these, a history of convulsions, starting in infancy at the time of dentition, was present in sixty-five. This leaves only fifty-seven in which there was no history of rickets or infantile convulsions. Gowers (29) has said that the prevention of rickets would considerably diminish the amount of epilepsy. These infantile rachitic convulsions are probably more nearly related to *petit mal* than *grand mal*, in that they are usually slight and tonic in type.

The following is a brief summary of my investigations on this subject :

No. of cases of epilepsy investigated	150
No. of cases with rickets	28
(*a*) Alone	10
(*b*) Combined with infantile convulsions	18
No. of cases with infantile convulsions alone	65
No. of cases with neither rickets nor infantile convulsions	57

Toxins.—Among the exciting causes of epilepsy, certain poisons must be mentioned as playing a part. Not only are toxic substances frequently the immediate cause of convulsions, but the latter may persist after the removal of the poison. This is certainly the case with alcohol, but apart from hereditary influence, which will be considered later, the subject does not come within the scope of the present thesis.

Gastro-intestinal irritation.—It has been noticed by Voisin (30) that there is often a disturbance of the gastro-intestinal apparatus shortly before an attack of epilepsy, pointing to the possibility of a toxic origin of the fits. This is illustrated by the following case :

Case III, 2.—C. M—, aged $2\frac{1}{3}$ years. First fit at age of $1\frac{1}{3}$ years. Since then he has had seven attacks. For about one week before each fit he loses his appetite and becomes yellow. Each fit lasts about twenty minutes. By the time the fit has ended the yellow colour has disappeared. There was no history of rickets or infantile convulsions. On examination he was found to have a yellowish complexion ; both his spleen and liver were enlarged.

Of the 150 cases investigated, sixteen were found to have had some gastro-intestinal affection, closely associated with the fits :

Case I, 62.—Extreme nausea before fits.

Case I, 40.—Diarrhœa and vomiting before each fit.

Case I, 184.—Vomiting five hours before each fit.

Case I, 186.—Vomiting thirty minutes before each fit.

Case II, 140.—Vomiting caused a relapse.

Case I, 128.—Dyspepsia during fits.

Case II, 16.—Dyspepsia during fits.

Case II, 154.—Dyspepsia during fits.

Case I, 35.—Diarrhœa and vomiting one week after each fit.

Case I, 132.—Diarrhœa and vomiting once a week after the fits.

Case II, 106.—Jaundice before each fit.

Case II, 174.—Jaundice before each fit.

Case III, 2.—Jaundice before each fit.

Case I, 154.—Died from cirrhosis of liver with jaundice.

Case II, 144.—Died from malignant disease of liver with jaundice.

Case II, 190.—During croup and diarrhœa fits diminished in frequency.

Tetany.—Under the heading of toxic epilepsy must be classed that form associated with tetany, which disease probably has a toxic origin (31). The following case is an illustration :

Case I, 112.—A. C.—aged $2\frac{1}{3}$ years. First fit at age of six months. Five months later he had another attack. Two months later he developed tetany. Since then he has had two more fits. He is somewhat rachitic and very passionate. There is no family history of epilepsy or insanity.

Reflex epilepsy.—There is a variety of epilepsy which may be termed reflex epilepsy. In this there appears to be some agent which, though not directly responsible for the disease, seems to contribute some irritation, thus, with the help of other factors, producing attacks. As instances may be mentioned errors of refraction of the ocular apparatus, some form of heterophoria, adenoids, respiratory diseases, worms, phimosis and urethral stricture. It has been a matter of dispute how much peripheral irritation contributes to the etiology of epilepsy, but as James Taylor (32) has said, "In a patient with an irritable nervous constitution, a straw may turn the balance for or against him."

Errors of refraction.—Wigglesworth and Bickerton (33) have recorded notes of nine cases of simple epilepsy, in all of which errors of refraction existed and were corrected by glasses. Three were cured (that is, there were no fits for from ten months to two and a half years) and two others relieved. Frothingham (34) has reported a case of epilepsy where two dioptres of hypermetropia were present. Bromides failed to effect a permanent cure, whereas partial correction of the ametropia succeeded. Spratling (35), on the other hand, failed to find a single case out of 1800 where the whole cause of the epilepsy appeared to lie in any abnormal condition of the visual apparatus. C. G. Lee (36) has come to the same conclusion. Of the 150 cases in my series, in no one was it certain that an error of refraction, when present, had any influence on the severity or frequency of the attacks.

Adenoids.—With regard to the presence of adenoids and enlarged tonsils, C. E. West (37) has recorded some cases where removal of adenoids stopped the occurrence of fits. Of the 150 cases I have investigated, in only four was the removal of adenoids performed. There was no improvement in one, an increase in the frequency of fits in a second, and in a third a cure resulted. In the fourth the epilepsy was considered by the patient's mother to have been due to the operation, but it was found on inquiry that an attack of pertussis had intervened. It must, however, be admitted that in only one of my series of cases the onset of epilepsy took place during pertussis, and in that instance other etiological factors were present—namely, infantile convulsions, rickets and a family history of alcoholism.

Respiratory diseases.—In five of my cases there appears to be a definite relationship between epilepsy and some disease of the respiratory apparatus—namely, asthma, bronchitis, pneumonia, and abscess of the lung.

Case I, 90.—G. G—, aged 13 years. Asthma, accompanied at age of ten years by fits, which continued for six months.

Case II, 24.—A. C—, aged 6 years. Bronchitis, accompanied at age of six years by two attacks. Previously he had suffered from convulsions.

Case II, 28.—F. M—, aged 3 years. Pneumonia, preceded by a very severe fit at age of fourteen months.

Case II, 62.—J. H—, aged 7½ years. Pneumonia, preceded by a severe fit. Fits continued for two and a half years.

Case III, 6.—L. C—, aged 9 years. Abscess of lung, followed in nine weeks, at age of four years, by fits, which continued for five years.

Vermes.—The presence of tape-worms in the intestinal tract is considered by Gowers (38), Taylor (32), Spratling (35), and others to assist in the causation of epilepsy. I have, myself, been unable to find in my series any case to illustrate this, but in one (II, 132) the cessation of the fits and the disappearance of the oxyuris vermicularis were synchronous, in another (II, 4) the fits were more severe when thread-worms became troublesome, while in a third (II, 164) there appeared to be no relation between the presence of this form of parasite and the epileptic attacks.

Phimosis.—Turning to the question of the influence of phimosis on epilepsy, Taylor (32) has never yet known fits cured by circumcision.

Three of my cases had a sufficient degree of phimosis to require operation, with the following results:

Case II, 86.—H. M—, aged 2 years. Phimosis. Fits began the day after circumcision, which was attended by severe bleeding.

Case II, 146.—C. P—, aged 2⅓ years. Phimosis. Fewer fits after circumcision.

Case I, 110.—G. B—, aged 3 years. Phimosis. No fits after circumcision.

Measles.—The effect of measles on epilepsy was investigated in fourteen cases. In four the illness had no effect on the attacks.

Case I, 49.—A. C—, aged 2 years. Freedom from fits for eight months not affected by measles.

Case I, 70.—L. S—, aged 4 years. Freedom from fits for six months not affected by measles.

Case I, 140.—B. C—, aged 10 years. Frequency of fits, namely, about every six months, not affected by measles.

Case I, 160.—R. B—, aged 13 years. No fits between ages of three and nine and a half years, during which time she had measles and pertussis.

In two cases measles seems to have been a factor in causing the cessation of fits:

Case I, 17.—H. W—, aged 14½ years. No attacks during measles, influenza, and mumps. Subsequently *grand mal* and *petit mal* recurred.

Case I, 31.—E. E—, aged 4½ years. After having attacks of *grand mal* and *petit mal* for eighteen months, there have been no attacks of either since measles two and a half years ago.

Three cases appear to have been started by measles:

Case I, 92.—A. W—, aged 4½ years. Attacks of *petit mal* began two years ago during measles, and have continued since.

Case I, 148.—F. W—, aged 9 years. First fit began prior to measles, in the course of which illness he had twenty-eight. During the succeeding twenty months he has had frequent attacks of *grand mal* and *petit mal*.

Case II, 144.—E. S—, aged 11½ years. First attack of *petit mal* began at age of four years, one month after measles. Since then she has had about one each year.

In five cases measles appears to have increased the frequency of the fits:

Case I, 106.—E. W—, aged 3 years. Fits began at age of six months. Measles occurred at age of eight months, with a fit at the onset and one in the course of the disease. For two months previously there had been no fits; subsequently they increased in frequency.

Case I, 128.—L. H—, aged 6½ years. Had fits since age of one year. Measles at age of four years, preceded by a very severe fit.

Case I, 130.—A. L—, aged 6½ years. Had fits since age of eleven months. A fit occurred before measles, influenza, pertussis, and scarlet fever.

Case II, 90.—O. E—, aged 2¾ years. Had fits since age of two and a quarter years. A fatal illness of measles and pneumonia was accompanied by several fits.

Case I, 9.—W. G—, aged 7 years. Had fits since age of eleven months. Had measles at age of five years, and a fortnight later had a fit—the first for six months. During the last fifteen months he has had 133 fits.

In so few cases, and with so varying an effect, it is impossible to draw any definite conclusion as to the influence of measles on epilepsy. It must, however, be stated that Taylor (32) has said that "feverish conditions occurring in an epileptic patient have the tendency to abolish fits during their persistence." This is contradicted by Cases I, 106, I, 128, I, 130, II, 90, and I, 9, and supported by Cases I, 17, and I, 31.

Chorea.—The pathological relations between chorea and epilepsy have already been considered. Etiologically, there seem to be little association between these two diseases. Taylor (32) says that it is rare to find epilepsy in a choreic patient. Gowers (39) states that epilepsy may succeed chorea, or *vice versâ*, the latter being more common, or both diseases may begin together. In my 150 cases there was only one instance of true chorea, brief details of which are as follows :

Case II, 14.—E. C—, aged 10 years. First fit at age of fourteen months. Attacks about twice a year until age of eight years, when chorea set in. There is a family history of rheumatism. She still has slight choreic movements, but no fits.

Spasmus nutans.—The forms of nutans found in childhood have been divided into the two classes: spasmus nutans and eclampsia nutans. This seems to be unnecessary, and the latter may be considered to be a variety of the former, both being closely allied to epilepsy, especially of the *petit mal* variety. Hadden (40) has frequently found a family history of convulsions in several instances.

Myoclonus.—The progressive form (Unverricht's (25) family type) of myoclonus frequently occurs in epileptics in late childhood, either preceding the other or both appearing simultaneously, and the term "epileptic myoclonus" has been used for these cases.

Infantile paralysis. — Infantile paralyses are closely related to epilepsy. This association may be brought about in one of two ways. Some local lesion, such as a hæmorrhage or a thrombus, may produce a paresis, true epilepsy being synchronously, or subsequently, developed, or convulsions may be the primary manifestation with the onset of the paralysis deferred to a later occasion. Sixteen of my 150 cases had paralyses at one time or another, and all degrees of severity and duration are illustrated. Thus in ten there was a hemiplegia or paraplegia, more or less temporary, occurring at the time of one or more of the fits. This temporary loss of function of some part of the body in certain forms of epilepsy was first investigated by Bravais in 1824. The following are brief notes of these cases:

Case II, 62.—J. H—, aged 6½ years. For last two years frequent fits, about one every week. No family history of epilepsy or insanity. First fit immediately preceded pneumonia. After each fit there is right hemiplegia lasting about fifteen minutes.

Case III, 4.—E. D—, aged 5 years. Very frequent fits for last fifteen months, sometimes as many as twenty-five a day. No family history of epilepsy or insanity. First fit occurred a fortnight after pertussis and removal of adenoids. For one or two days after each fit there is right hemiplegia with occasional affection of speech.

Case II, 48.—W. B—, aged 5 years. Fits began one year ago. No family history of epilepsy or insanity. For one week after the first attack there was left hemiplegia; subsequently an attack of left hemiplegia preceded a series of fits.

Case I, 168.—G. Y—, aged 16 years. Fits began at age of four years. Has suffered from attacks up to present time. No family history of epilepsy or insanity. For a week after first fit there was left hemiplegia.

Case I, 58.—I. E—, aged 10½ years. Fits began at age of three years. Suffered from attacks up to age of six years. No family history of epilepsy or insanity. For the last two and a half years has had several attacks of the following nature: seems weak for some days, and then entirely loses power of legs for about a week, gradually recovering. Latterly, these attacks have only lasted fifteen minutes.

Case I, 132.—C. H—, aged 5 years. Fits began at age of one and a half years. Has suffered from attacks up to present time.

Father had "teething convulsions." For three weeks after first fit there was left hemiplegia.

Case I, 33.—A. C—, aged 6 years. Fits began at age of two and a half years. There were only two attacks. Previously he had infantile convulsions. No family history of epilepsy or insanity. After the second fit there was left hemiplegia, which soon disappeared. At age of five and a half years there was a second attack of paralysis, both arms and legs being affected. This gradually passed off, and at present time all paresis is absent.

Case II, 136.—K. W—, aged 2 years. Fits began at age of eight months. No family history of epilepsy or insanity. After the third fit, at age of one year, there was right hemiplegia. At present time there is still slight weakness of the right grasp.

Case II, 186.—E. H—, aged 3 years. Fits began at age of one and a half years. Strong family history of epilepsy in same generation, and in both father's and mother's relatives of two previous generations. With first fit there was left hemiplegia. At present time there is still slight weakness of left arm and leg, with athetoid movements of the hand.

Case II, 148.—N. S—, aged 3 years. Fits began at age of six months and recurred at age of two years. No family history of epilepsy or insanity. With the recurrence of the attacks right hemiplegia developed. At present time there is still some weakness of right arm and leg.

In one case the lesion was more localised, being apparently confined to the right seventh nerve nucleus :

Case I, 176.—F. K—, aged 4 years. Fits began at age of one and three quarter years with a severe convulsion. For one month the attacks occurred nearly every night. For the last month she has had seizures of the *petit mal* variety. There is no family history of epilepsy or insanity. After the first convulsion there was severe and complete right facial palsy. At present time there is complete palsy of lower part of right side of face.

Three cases illustrate the onset of epilepsy in patients who had hemiplegia from birth :

Case I, 43.—H. W—, aged 8 years. Right hemiplegia from birth. Onset of fits at age of three months. No instruments at birth ; easy labour. At present time there is half an inch shortening of right leg, with contracture of right arm and athetosis of right hand. Mentally and morally good.

Case II, 76.—A. H—, aged 3½ years. Left hemiplegia from birth. Onset of fits at age of about two years. No instruments at birth. At present time there is weakness of left leg and arm, with a tendency to athetosis of left hand. Mentally and morally good.

Case I, 37.—B. B—, aged 6½ years. Left hemiplegia from birth. Onset of fits at age of two and a half years. Instruments used at birth; difficult labour. At present time there is slight contracture of left arm and mental deficiency, the patient being in an asylum for the last six months.

In the above cases the onset of epilepsy occurred comparatively early. Cases of old infantile hemiplegia may develop epilepsy as late as forty years of age.

Closely allied to infantile hemiplegia is diplegia from birth, which may be succeeded by the onset of epilepsy. The following are instances of this association:

Case II, 154.—G. E—, aged 2½ years. Weakness of both legs and arms since birth. Onset of attacks of *petit mal* at age of five months; these have continued up to present time. Instruments used at birth; face presentation; difficult labour. There has been, apparently, psychic blindness. At present time weakness of limbs still present, with mental defect.

Case II, 96.—J. S—, aged 6½ years. Paresis of both legs since birth. Onset of fits on second day after birth; these attacks continued until age of two years. Instruments used at birth; difficult labour. There has been, apparently, psychic blindness. At present time there is paresis and rigidity of both legs, with athetoid movements of right hand; she is mentally defective.

Progressive cerebellar disease.—In this connection must be mentioned the progressive form of cerebellar disease, which is closely associated with epilepsy. This has been investigated by F. E. Batten (41), Fraser (42), and Warrington (43), the last mentioned finding nine cases of epilepsy in twenty-four of progressive cerebellar disease.

Injury.—The effect of injury on the development of epilepsy must be considered to be that of an exciting stimulus on a receptive cerebral cortex. In my series of cases there was a history of a blow, or a fall, or a fright in twenty-eight, the time between the injury and the fit varying considerably. Thus, in sixteen the injury or fright occurred on the same day, while in twelve there was an interval of from one day to eighteen months. The following may be quoted as an illustrating case:

Case II, 190.—L. B—, aged 2½ years. Has had frequent fits since age of 8 months. Often these are as many as ten a day. There is only partial loss of consciousness, but usually incontinence of urine. There is a strong family history of epilepsy on the mother's side, and the father has migraine. The child was suckled until the age of eleven months, and then for fourteen months was brought up on Nestle's milk and barley-water. She has had rickets. As each tooth is cut she has a series of attacks, and the slightest blow or fall brings on "a turn."

In fourteen others a history of forceps being used at the time of birth was obtained. There is probably no relation between instrumental delivery and subsequent epilepsy, except in those cases where a birth-injury, as shown by a paresis, resulted (see above).

Brief details of these cases are as follows:

No. of case.	Nature of injury.	Interval before fit.
I, 3	Head knocked and fright	Few minutes
I, 64	Blow on chest	,, ,,
I, 114	Fall	,, ,,
I, 148	Blow on head	,, ,,
I, 178	Fall on head	,, ,,
II, 58	Blow on head	,, ,,
II, 78	Fall	,, ,,
II, 106	Falls	,, ,,
II, 190	Falls or blows	,, ,,
III, 1	Fall	,, ,,
II, 170	Blow on head	One day
I, 180	Fall	Three days
III, 7	,,	Four days
I, 15	,,	Five days
II, 176	Blow on head	Seven days
II, 187	Fall from stairs	Nine days
I, 58	Fall	Two weeks
I, 160	Fall on head	Three weeks
II, 44	,, ,,	,, ,,
III, 2	,, ,,	One month
I, 176	Fall	Two months
I, 41	Fall on head ("never the same since")	One and a half years

No. of case.	Nature of fright.	Interval before fit.
I, 17	Fright in dark	Few minutes
I, 168	Fright	,, ,,
I, 184	Sight of blood	Thirty seconds
II, 34	Sight of policeman	Few minutes
III, 9	Sight of soldier	,, ,,
II, 142	Sight of street accident	One month

Instrumental Delivery with no Succeeding Paralysis.

Case I, 98	First fit two days later
,, II, 185	,, a few days later
,, I, 134	,, two weeks ,,
,, I, 25	,, four weeks ,,
,, II, 124	,, six weeks ,,
,, I, 49	,, ten months ,,
,, I, 104	,, two years ,,
,, II, 30	,, two and two thirds years later
,, I, 70	,, three and a quarter years ,,

Instrumental Delivery with Succeeding Paralysis.

No. of case.	Nature of paralysis.	Interval before fit.	Mental defect.
II, 96	Congenital diplegia	2 days	Cannot talk at 6½ years.
II, 154	,, ,,	5 months	Dull at 2½ years.
I, 37	,, hemiplegia	2½ years	In asylum at 6 years.
II, 62	Temporary right hemiplegia after each fit.	4½ years	In asylum at 6½ years.

Enuresis.—Enuresis, apart from involuntary micturition during a fit, is sometimes found among epileptic children. Thus, my 150 cases supply ten instances. It may begin before the onset of the epilepsy, as shown in the following cases:

Case II, 34.—H. E—, aged 12 years. Fits began at age of ten years. Nocturnal enuresis when younger.

Case II, 46.—A. S—, aged 6 years. Fits began at age of three and a half years. Enuresis some little time before the first fit.

In other cases it begins during epilepsy, and may persist after the fits have ceased to occur:

Case I, 41.—W. P—, aged 5 years. Fits began at age of one and a half years and continued for two and a half years, with a tendency to precipitate defæcation and micturition.

Case I, 55.—E. W—, aged 14½ years. Fits began at age of four years, and continued as *petit mal* until the age of twelve and a half years. Enuresis began at age of eight years and continued for five years.

Pavor nocturnus.—The disease known as night terrors, or pavor nocturnus, is probably closely allied to epilepsy. Its presence points to an irritable and unstable cerebral cortex, though less in degree than that found in epilepsy. Ten of my series suffered from this affection. The following are instances:

Case I, 33.—A. C—, aged 6 years. Fits at age of two and a half years for a few months, with night screaming. At age of four and a half years he had night terrors for one month, each attack lasting two to three hours.

Case I, 35.—S. B—, aged 8½ years. Fits at age of nine months until one year ago. For the last year he has been very restless at night, with attacks of screaming; he sees strange things in the corner of his room. After this is over his speech seems strange, and during the attack he goes quite stiff. There is complete unconsciousness, with occasional somnabulism.

Case I, 78.—K. G—, aged 10½ years. Fits since age of nine years. Concurrent night terrors.

Case II, 60.—A. M—, aged 2 years. Fits began at age of four months and have continued up to present time. Frequently he has night terrors.

Case II, 3.—R. P—, aged 4 years. Fits since soon after birth. Frequently she has night terrors.

The following cases appear to illustrate the development of night terrors in place of epilepsy:

Case II, 24.—A. E—, aged 6 years. Convulsions while teething at age of one year. For two and a half years he had had night terrors. He starts up in his sleep and gazes into space, crying out, "don't let them do it." His eyes are open and fixed.

Case I, 76.—P. H—, aged 8 years. Onset of night terrors at age of nine months. For three years they occurred at least once every week, with attacks of screaming and hallucinations. For the last few years they have been less frequent. There has been enuresis in addition the last two years. He is intelligent, but destructive and irritable, with a very bad temper. There have never been any fits or convulsions. There is no family history of epilepsy or insanity. The father was a great drunkard at the time of the child's birth.

The Subject Considered Familially.

Epilepsy.—Epilepsy is an hereditary disease, and may be transmitted through several generations. The following are the statistics obtained from my series of cases:

One relative, previous generation.—Six had epileptic fathers, six had epileptic mothers, eight had epileptic maternal uncles, five had epileptic maternal aunts, three had epileptic paternal uncles, one had epileptic paternal aunt.

One relative, previous generation but one.—Two had epileptic paternal grandmothers, one had epileptic maternal grandmother, one had epileptic paternal great-aunt, two had epileptic maternal great-aunts.

Two relatives, previous generation.—Two had epileptic maternal uncles and maternal aunts.

Two relatives, previous generation but one.—One had epileptic maternal grandfather and paternal grandfather.

Two relatives, previous two generations.—One had epileptic maternal uncle and maternal grandmother.

Three relatives, previous two generations.—One had epileptic mother, maternal grandmother and maternal grandfather; one had epileptic father, maternal aunt and paternal grandfather; one had epileptic paternal aunt, maternal great-aunt and maternal great-uncle.

Migraine.—The association of migraine and epilepsy is shown to be a fairly close one by the following details of thirty-seven cases specially investigated from this point of view. The mothers of fourteen cases, the father of a fifteenth, and the sister of a sixteenth case suffered from typical migraine. In addition to this, of these sixteen patients there was a family history of epilepsy in nine, while of the remaining twenty-one only two had relatives who suffered from fits. The following tables illustrate this:

No. of case.	Family history of migraine.	Family history of epilepsy.
I, 33	Mother	*Nil.*
I, 106	,,	Mother.
II, 46	,,	*Nil.*
II, 64	,,	Maternal aunt.
II, 124	,,	,, uncle.
II, 132	,,	Paternal grandmother.
II, 142	,,	Maternal aunt.
II, 152	,,	One brother.
II, 162	,,	Maternal uncle.
II, 164	,,	*Nil.*
II, 186	Mother and sister	Paternal aunt, maternal grandfather, maternal great-aunt, and maternal great-uncle.
II, 187	Mother	*Nil.*
II, 190	Father	Maternal grandmother and maternal uncle.
III, 1	Mother	*Nil.*
III, 6	Sister	,,
III, 7	Mother	,,
I, 176	*Nil*	*Nil.*
II, 4	,,	,,
II, 30	,,	,,
II, 34	,,	,,
II, 106	,,	Maternal uncle and maternal aunt.
II, 126	,,	*Nil.*
II, 136	,,	,,
II, 138	,,	,,
II, 148	,,	,,
II, 154	,,	,,
II, 156	,,	,,
II, 158	,,	,,
II, 168	,,	,,
II, 185	,,	,,
II, 188	,,	Mother.
III, 2	,,	*Nil.*
III, 4	,,	,,
III, 8	,,	,,
III, 9	,,	,,
III, 10	,,	,,
III, 12	,,	,,

Alcoholism.—Alcoholism in a parent is considered to be a predisposing cause of epilepsy in the child. Bevan Lewis (44) states: "It has been conclusively shown that, as regards the criminal, at least, epilepsy is a most frequent sequel in the offspring of paternal alcoholism." My figures show that alcoholism in the parent, apart from any criminal taint, is, if paternal, liable to breed epilepsy in the offspring. Of 129 cases investigated, the results were as follows: both parents teetotallers, 19; father teetotaller, mother moderate drinker, 7; mother teetotaller, father moderate drinker, 6; both parents moderate drinkers, 76; father drunkard, 18; mother drunkard, 2; both parents drunkards, 1.

THE SUBJECT CONSIDERED SYMPTOMATICALLY.

Migraine.—Migraine is closely associated with epilepsy in its symptomatology. Headache, with some mental disturbance, frequently precedes an attack of epilepsy, just as a feeling of dulness may occur for a day or two before an attack of migraine. The visual aura of epilepsy has its exact counterpart in the photopsiæ, which are so frequently found with migraine. The scotoma of epilepsy is usually peripheral, while that of migraine is nearly always central, though variations have frequently been recorded. Oppenheim and Thomsen (45) found concentric narrowing of the visual field in thirty-one out of ninety-four cases of epilepsy, while Hitier (46) found it in only three out of eighty-seven epileptics. In three of my cases there was, for a time, apparent psychic blindness:

CASE I, 156.—J. H—, aged 5 years. At the commencement of the fits, at the age of three years, he was quite blind for several weeks. There was no apparent fundus oculi disease. The fits continued until the age of four years.

CASE II, 96.—J. S—, aged 6½ years. See p. 144.

CASE II, 154.—G. E—, aged 2½ years. See p. 144.

The twitchings found in epilepsy are usually replaced by sensory manifestations in migraine, such as "pins and needles" in the fingers and tongue. Stephenson (47) has recorded a case of migraine in a child, with disturbances of mobility, as shown by twitchings of the upper and lower extremities.

Ménière's disease.—The symptoms of aural vertigo, or Ménière's disease, may closely resemble those of epilepsy. Both may begin suddenly, the latter with an auditory aura. Two of my cases showed this:

CASE II, 34.—H. E—, aged 12 years. Fits since age of ten years. Previous to fits he feels giddy and has noises in right ear.

Case III, 10.—A. T—, aged 3 years. For two years he has had fainting fits with giddiness. Before each attack he has noises in left ear. Duration of each attack is from a few seconds to five minutes. Left tympanic membrane is normal. Under bromides he lost all his attacks.

There may be a momentary loss of vision, though this is rare in aural vertigo. Consciousness may be lost in Ménière's disease with a dazed recovery, nausea being very common. Aural vertigo may occur in sleep, and then resembles epilepsy. Essential vertigo, occasionally present on waking, may affect many members of the same family, and may be the commencement either of epilepsy or of aural vertigo. The diagnosis between the two diseases may depend on the symptom-complex vertigo, tinnitus and deafness, found in Ménière's disease.

Summary.

(1) The pathology of epilepsy appears to resemble in some respects that of cerebral diplegia, chorea, paralysis agitans, neurasthenia, myoclonus and migraine.

(2) Etiologically, rickets is an important factor in the causation of epilepsy.

(3) A variety of epilepsy, which may be termed toxic epilepsy, is chiefly gastro-intestinal in origin.

(4) Reflex epilepsy is apparently rare; peripheral irritation probably plays a very small part in the production of the fits.

(5) The effect of measles on epilepsy is uncertain.

(6) Chorea is very rarely found associated with epilepsy.

(7) Infantile paralyses, especially the congenital forms, are closely related to epilepsy.

(8) An injury or a fright is frequently the exciting cause of a fit. Instrumental delivery may be followed by paresis with subsequent epilepsy.

(9) Enuresis is an occasional sequela of epilepsy.

(10) The disease known as night terrors is probably a mild form of epilepsy.

(11) The three affections most frequently found in the family history of epileptics are epilepsy, migraine and alcoholism.

(12) Migraine appears to be very closely allied to epilepsy, both in the family history and symptomatically.

(13) The differential diagnosis between Ménière's disease and epilepsy is occasionally difficult.

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THE CURE OF CHRONIC CORYZA OF SCROFULOUS CHILDREN AT LA BOURBOULE.

By Dr. E. F. Christin,
Physician at La Bourboule.

Nowadays the beneficial influence of thermal waters upon chronic coryzas is a much vexed question, and many eminent physicians ask themselves if, in the long run, a great number of patients sent to spas are not worse when they come back. It appears to us, however, that if physicians would take the trouble of accurately determining the indications for each source, and if, on the other hand, we did not attempt to do too much for fear of appearing to do too little, many patients whose treatment has had bad results would come back from the watering-place really improved, if not completely cured.

At all events, this is what seems to be proved in our practice at La Bourboule; and among the varieties of chronic coryza which we treated, the chronic rhinitis of scrofulous children is particularly improved by the Bourboulian treatment.

The number of children, six to fifteen years old, who look pale and ill, who blow from the nose two or three handkerchiefs' full of a muco-purulent, yellowish, and odourless liquid, is very considerable, especially in large cities.

If we examine by anterior rhinoscopy the nose of these children, we see sometimes between the inferior turbinate and the septum, in the inferior meatus, a thick coating of muco-pus. The nasal mucous membrane, especially at the level of the inferior turbinate, is pale, flaccid, and wrinkled.

The obstruction caused by the thickening of the mucosa exists sometimes in the right nostril, sometimes in the left; but the changes caused by the degeneration are identical on both sides. By posterior rhinoscopy we find several large, pale, and yellowish growths, which first of all call for surgical treatment; or, on the contrary, and often in children whose growths have been removed, a pale mucosa is seen at the level of Luschka's tonsil, swollen as it were, and the crevices of which are full of muco-pus.

This chronic infection of the nose and cavum very often affects the cervical glands, which are found brawny and much enlarged during the attacks.

Of course this disease cannot in itself lead to serious consequences, but since a chronic infection of the nose and cavum often opens a way for tubercle bacilli,* it can, on the other hand, produce trouble in the internal ear and in the larynx; we must, therefore, treat this infection carefully.

"Left to itself," says Dr. Lermoyez, "the chronic coryza will never retrogress, well treated it will notably improve, and the alleviation of pain that we can give the patient is marked enough to justify our treatment."† As in all diseases, the best treatment seems to be the treatment of the cause of the illness.

Rhinologists will, of course, find the cause of purulent rhinitis to be simply local, and Dr. Lermoyez says that nine times out of ten we can cure the nose of children who are suffering from a cold by removing the adenoids.

But in many cases it can be seen that surgical treatment is not sufficient. After it, as before, the children blow from the nose purulent matter, and so frequently that, during a long period, local medicinal treatment has been prescribed for the persistent catarrh of the naso-pharynx. It was the old method of Meyer, recommended nowadays by Professor V. Lange, of Copenhagen.‡

We must say that in the majority of the cases definite recovery cannot be attained before the general state of health, which was the first cause of the complaint, has been successfully dealt with. "We have no idea of the number," says again Dr. Lermoyez, "of scrofulous children whose scrofula keeps up, in later childhood, a relapsing coryza."

La Bourboule is admirably fitted for the treatment of these patients, since it is at the same time a climateric and thermal station.

Fletscher Ingals of New York, with good reason, insists upon the importance of a favourable climate in treating chronic coryza. "The ordinary secreting form requires," says he, "a pure air, a dry atmosphere, and a medium altitude." La Bourboule with its valley widening towards the south, while protected from the north winds by the chain of Mount Dore, surrounded by large pine forests, and with its 2700 feet altitude, possesses, therefore, every essential in this respect. To these secondary advantages La Bourboule unites the unique privilege among European spas of its true arsenical water. Not merely a small trace, as in numerous other stations, but twenty-eight milligrammes of arseniate of soda per litre. The water of La Bourboule, taken by mouth, has an influence on scrofulous catarrh of the nose, (1) indirectly, by improving the general condition, (2) directly, by producing definite changes in the mucosa. It is not only to the confirmed disease that the Bourboulian treatment is beneficial, but also to the predisposition. "La Bourboule," says Dr. Escaut, "must be placed on the same level as cod-liver oil in the treatment of children's diseases."

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* Dr. Leroux, 'Annales des Maladies de l'Oreille,' Paris, 1907.

† Dr. Lermoyez, 'Annales des Maladies de l'Oreille,' Paris, 1906.

‡ Dr. V. Lange, 'Monats. f. Ohrenheilk.,' 1906.

We will not insist on these well-known facts, but only consider by what mechanism the internal treatment can produce changes in the nasal mucosa. "In the majority of the patients who come to our station," says Dr. Nicolas, "we can see at the beginning of the cure a certain swelling and congestion of the mucosa of the superior respiratory tract; congestion which can be explained by the stimulus given to the small vessels of the capillary system, and which produces great glandular hyper-activity. This reaction, rather troublesome in subjects with a normal nasal mucosa, becomes a truly precious therapeutic agent when we are in the presence of an atonic mucosa, which requires stimulation."* Whatever be the value of this pathogenic hypothesis, practice, however, has for a long time shown that under the influence of the Bourboulian treatment chronic rhinitis is considerably improved.

Dr. Ch. Fauvel sends lymphatic children and youths more especially to La Bourboule. "I have seen," says he, "many children afflicted with nasal and auricular struma, catarrhal pharyngo-laryngitis, with granular thickening of the mucosa, and showing, moreover, a very marked cervical adenitis, come back in a better condition, almost completely cured." Evidently it is necessary in more chronic and graver cases to continue to take the waters at home and even to go back to the spa for two or three years.

"If I had to draw a parallel between sulphurous waters and La Bourboule," says again Dr. Nicolas, "I should say that the former seems to me better indicated for eradicating the catarrh in a vigorous patient, but that its energetic action prohibits its use for weaker patients. La Bourboule water, milder in its action, is better suited for weaklings."

We cannot give in this paper the exact doses in which La Bourboule water should be drunk by children. Everybody will understand that it is necessary to vary them with the age, toleration, general condition, permeability of the kidneys, in a word, with each individual patient.

Our thermal establishment, perfectly fitted up with the latest appliances, allows us to select the method of treatment; sprays, inhalations, lotions, shower-baths, baths, massage, etc., can each in turn be employed for this purpose.

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* Dr. Nicolas, 'La Bourboule,' 1888, p. 140.

We can therefore say of La Bourboule with Dr. Lermoyez: It is much more by improving the general condition of health than by its local action on the diseased mucosa that the cure at the spa improves chronic coryzas.

Must we conclude that, locally, the treatment at La Bourboule is harmful or useless? Such is not our opinion. We have at our command very hot water (138° F. at the springs) which can be used in its natural state. The greater the warmth of the nasal douche the greater its action. Heat decongests the turbinates and stimulates the phagocytic activity of the mucosa.

Again, the mucosa reaps marked benefit from the arsenic contained in the water. Dr. Fauvel used to attach a great importance to this local treatment. "It is absolutely necessary," says he, "that the direct contact of the water of La Bourboule and the mucosa should take place every day." I am aware that La Bourboule water, like the generality of mineral waters, is not isotonic; it is slightly hypotonic, the salt spring residue being only 5 gr. 6479 per litre; but we must not forget, and experience seems to prove it, that certain phenomena of ionisation can produce a kind of equilibrium between it and the serum of the blood.

On the whole the danger in treatment followed at a spa resides in the so-called energic methods, which make use of high-pressure douches, apparatus which entirely block the nose, violent local applications instead of slow and moderate irrigations.

If properly handled, the little patient will not return to his physician with the "thermal coryza" which some of our teachers seem to be afraid of. He will certainly have improved his general condition and toned up his nasal mucosa.

THE ACQUIREMENT OF SPEECH IN CHILDREN.

By A. H. Gerrard, M.D.Lond., D.Ph.Oxon.

In the life of an infant there are three chief epoch-making events: the cutting of a tooth, the utterance of a word, and unaided upright progression. The achievement of each makes the little one the centre of an admiring crowd of friends. The tooth is a wonder, the toddling a marvel, but it is not until baby begins to talk that one regards it as an intelligent unit, and when it does begin to utter words there is something extremely attractive in these first products of a budding mind. The interest does not, however, remain here, for in these early essays at talking a great deal of light is thrown upon the manner in which we all have learned to think, and communicate our thoughts to others. If we look into the matter we shall see that from the first day of birth till many weeks after, the only sound uttered by a child is a cry. By this means alone can the little one attempt to communicate its desires and discomforts. Indeed, at this stage, a desire is a discomfort, and when no discomfort is experienced the child lies asleep, or awake, moving its limbs with gentle undulatory movements. Presently, when a little has been learned concerning its surroundings, and perhaps pain and pleasure have been differentiated, a smile is added to its accomplishments, and a guttural "goo" is uttered. Later on the child gives forth such sounds as "ah," "ee," "da," and it is these which constitute the elements upon which the acquisition of speech in the infant is based. We shall see later on that all so-called baby-talk consists of words modified in such a way as to bring them in close proximity to these primitive sounds, and more easy of pronunciation.

It is largely by the study of this baby-talk that we can get a glimpse of the way in which a child comes to speak intelligently. Strangely enough, all mothers seem, by intuition, to teach their children by almost identical methods. Much the same process is used in all countries, and is partly due to copying the methods used by other mothers.

One of the first sounds uttered, to which the mother attaches any importance, is the cry of "da." As soon as this utterance takes place the mother repeats to the little one "dad, dad." Presently the child modifies its "da" to "dad," and as it repeats the sounds the father is pointed out, or, more often, the child is given him to nurse. Then the child gradually gets to know that there is some association between the father and the sound. The same process is gone through with "mum," in relation to mother. Later on, the "dad, dad" is modified into "da-da," and the "mum" into "mum mum." The child wants little teaching now to say "pa-pa" and "ma-ma," and probably the child learns to say these words more quickly by this method than if the words were taught direct.

As soon as these two important words have been learned, or even before, the mother repeats to the child the names of objects, but she always does so in such a way that the sound is modified or altered so that it may be more easy for the little one to repeat. These modifications usually take the form of re-duplication of sounds, leaving out difficult vowels or consonants, or even the substitution of a new word. For instance, in "nicey-nicey," and "pitty" for pretty, and "dink" for drink, and "ta" for please, and "tat-tat" for good-bye, we have examples of all these methods.

Some words are used in a general sense, as the word "bup-bup," which denotes all food, and is probably an imitation of the sound made by opening and shutting the mouth when eating. This "bup-bup" later on, by a slight modification, becomes "bupper," and denotes a particular kind of food. It is now an easy step from "bupper" to bread and butter.

After a while, other words are presented to the child, and, should any difficulty arise, it overcomes it with a natural ease by modifying its difficult sound, or leaving it out, as "tup" for cup, and "ish" for fish, "dink" for drink.

As all children learn largely by imitation, one would naturally expect to find some words used to name objects by the characteristic sounds made by these objects. This is found pretty frequently, as in "puff-puff," "moo," "bow-wow," "ba-ba," "nan" (from the bleat), "puss" (from the purr), and so on. In this class of word, the mother intuitively reaches a high standard of educative method, for she here teaches the child to recognise an object by its characteristics. Presently the "puff-puff" becomes the "puffer," and, later, the child comes to know the "puffer" is an engine. The "moo" becomes the "moo-cow," and then, by dropping the "moo," the cow. "Ba-ba" becomes "ba-lamb," then "lamb"; "puss," "pussy," "pussy cat," "cat"; "nan," "nanny," "nanny-goat," "goat."

Then, again, some places are named from association, as "bye-bye" for bed. That is the place to which one goes when one says "good-bye." Evidently the "good" is left out because of the difficulty of pronunciation, and that it is much easier to repeat the "bye" in its stead, for the same thing happens in "night-night" for good-night.

Right throughout the early acquisition of language there is a great tendency to the use of diminutive endings and especially "ey" and "y," probably for the reason that it gives a uniformity to the words whilst the main vowel sound is retained and difficult endings cut off. Such words as "pinney" for pinafore, and "sissy" for sister, are more easily said and more easily retained than the proper words, and are easily modified later on to get the correct pronunciation.

In such words as "tummy" for stomach, "tootsey" for foot, we have examples of a double process, the altering of a difficult letter and the addition of a diminutive. It has been urged that the method of teaching children to talk by means of modified and altered words is erroneous because wrong pronunciations are taught and words have to be re-learned. At first sight such an objection seems valid enough, but I think that what is written above shows that there is much that is scientific in the old-time method.

It will probably have been noticed that a great number of words used by children are reduplicated sounds. Apparently it is much easier for a little one to say "ba-ba" than "ba" alone. It is difficult to see why this is so unless it be that in accordance with the unstable condition of the nervous system of infants that when once the nervous mechanism of articulation is put into motion it is difficult to inhibit it. Unconsciously the mother recognises this feature, as is shown by such words as "nicey-nicey," "handy-dandy," and going "ta-ta."

As the child grows up these repetitions are dispensed with. This occurs first in words used in general and when in the company of other children, but it takes a long time to eliminate diminutives from the nursery and the bed-room. "Pinney" and "nighty" are words used by children for many a long day, and are retained long after the time when "bupper" became "bread and butter."

Somewhere about the age of four the child begins to pick up simple words without any modification, but if a difficult word must be used will still modify it by leaving out a syllable or altering the chief sound, as "ticckler" for particular, and "evelent" for elephant.

Usually, long before the correct shaping of words has been learned, children begin to apply their knowledge by means of their limited vocabulary, and, as is usual, they pass from the general to the particular. "Da-da" is used to signify any man, and "ba-ba" any animal. Later on, when some special characteristic has been learned, "da-da" comes to mean a particular man, and in the same way "ba-ba" becomes a sheep in contrast to similar animals.

During the process of learning words it is fairly common to find new words coined. I know a child who always signified that it wanted drink by the word "blucken." This was evidently an imitation of the sound produced when swallowing fluids. Nearly all these newly-coined words of children are expressions of some association.

Now, seeing the acquirement of language is a somewhat complicated process, it is not surprising if matters occasionally go wrong. The deviations from the normal are, in the main, due to either the child's efforts to bridge over what, to it, are difficulties in pronunciation, or to want of control of nervo-muscular mechanism of speech. Lisping is a means of shirking the difficult "s," and stuttering a lack of control, which, in many cases, is an exaggeration of the tendency to re-duplication seen above, though it, of course, appears later. But perhaps the most interesting example of speech defect in children is that of idio-glossia, in which the child seems to invent a new language. This trouble, as far as my observations have led me, seems to take on two distinct types. In one, certain vowels and consonants are replaced by certain sounds, and this is done uniformly, so that, with a little practice, one can follow the child's language. In the other type, the child actually coins words to represent certain objects and to convey certain meanings. Here the child invents a language of its own. The first type comes into line with ordinary baby language, whilst the latter type is closely allied to the normal cases in which new words are invented. Indeed, on closely looking into these cases, many of the words will be seen to be associative sounds. In the last type no one can understand the child but the mother and those in very close and long association with it. In nearly all these cases of early speech defects, there is a marked neurotic family history. I have notes of a case in point where the first child, as it grew, spoke the most unutterable jargon. Later on a second boy arrived, and he learned the language from his brother. To hear these two children talking together was suggestive of Chinese. Apart from fits of ungovernable temper, these children were quite healthy, but the mother was subject to occasional attacks of minor epilepsy. The mother's sister suffered from hysteria and asthma, whilst the grandmother of the children was affected with paralysis agitans. Both these children came to speak in a normal manner, as such cases nearly always do.

The Society for the Study of Disease in Children.

A MEETING of this Society was held at 11, Chandos Street, on Friday, March the 15th, Dr. G. A. SUTHERLAND in the chair.

The CHAIRMAN (Dr. G. A. SUTHERLAND) made a sympathetic reference to the recent death of Dr. Sansom, one of the founders of the Society, and the first Chairman of the Council, and by the unanimous wish of the meeting the Honorary Secretaries were instructed to write to Mrs. Sansom expressing their regret at her loss.

A Paper on Tuberculosis of the Testes in Infants was read by Mr.

Russell Howard. Tuberculosis of the testes, contrary to the opinion of some French authors, is much rarer in infants than in adults, the statistics of the London Hospital giving ·07 per cent. cases in infants, and ·33 per cent. cases in adults, of all surgical cases admitted in ten years. This is what might be expected, as the organ is not physiologically active till adult life. The disease is usually primary in the epididymis, and spreads to the body of the testis; the vesiculæ seminales and prostate are rarely involved in the early stages. In nine cases analysed, in only one was the vesicula involved. Injury plays little part in the causation of the disease. The left testis is the one most frequently diseased. Cases of tuberculosis of the undescended testis are very rare, and the author could find no reference to an undoubted case. Cases have been reported in the fœtus at full term, and in one case reported the swelling was noticed three months after birth. The globus major is the part first affected, and the body is nearly always involved. Hydrocele occurs in about one third of the cases; caseation is the usual result. It occurred in all nine cases reported. The diagnosis from syphilitic orchitis is difficult, and chiefly rests on the other evidences of syphilis and the response to treatment. Sarcoma, another source of error, is not so common as tuberculosis, and infection of the lumbar glands occurs early. The prognosis is not good, and tubercular peritonitis is a frequent complication.

Treatment.—If one testis only is affected and a rapid improvement does not occur under general hygienic and the opsonic treatment, the testis should be removed. The effect of unilateral orchidectomy on the mental and body growth may be neglected. Local treatment of strapping and inunction of mercury is useless. If both testes are affected, or one has been removed and the other becomes diseased, general hygienic and opsonic treatment should be tried. If the disease progresses scraping is necessary, and the testicles must only be removed as a last resort, as the effect of removal of both testes is marked on the mental and physical vigour. With the testis, as much of the vas as possible should be removed.

Mr. Jaffrey alluded to two cases which had recently come under his observation.

The Chairman asked whether Mr. Howard frequently met with tuberculous testes associated with tuberculous peritonitis. In his own experience of the latter it had not been uncommon to find the testicle enlarged on one side.

A Case of a Teratoma removed from the Sacral Region of a Child, aged 6 years, by Mr. Barnard, was shown by Mr. G. Russell Howard. The child was brought for treatment of the tumour, which had been present from birth, and was slowly growing. There were no symptoms. It was removed successfully, being only fastened to the back of the sacrum by loose fibrous tissue and several large veins. The tumour consisted of several different parts: a large structure, somewhat resembling a kidney in a serous sac at the lower part and a mass of cysts at the upper part. Bone, lymphoid tissue, and cartilage were also found. The tumour was very vascular. Microscopic section showed the large kidney-shaped mass to consist of interlacing tubules lined with a columnar-celled epithelium, with masses of lymphoid tissue and large, round cells in between the tubules. No trace of glomeruli or normal kidney structure. Some of the cysts were lined with stratified epithelium, with sebaceous glands; others with columnar epithelium and villi. Cartilage, striped and unstriped muscle, lymphoid tissue, and bone were also seen in the sections. The tumour was therefore derived from all three layers of the embryo, and was a teratoma.

A Boy, aged 3 years, with a Large Cystic Tumour in the Abdomen was shown by Dr. Edmund Cautley. It was probably due to congenital hydronephrosis.

A Boy, aged 2 years, with a Large Solid Tumour in the Left Lower Quadrant of the Abdomen, was also shown by Dr. Cautley. The spleen and liver were somewhat enlarged, but the blood showed no definite changes. He regarded it as sarcomatous in character.

A Girl, aged 7 years, with a Cerebral Tumour was shown by Dr. J. Porter Parkinson. There was a history of general epileptiform convulsions for the past eighteen months, attended by unconsciousness and relaxation of the sphincters. On the last occasion there occurred eight fits in four hours. Weakness of the right side of the face and right limbs had been noticed for two months. Recently there have been violent paroxysms of headache and vomiting. The child presented all the features of a typical case of hemiplegia, but there was no other paralysis of motion or sensation, or attachment of any cranial nerve. The gait was hemiplegic, and the deep reflexes exaggerated on the right side. One fit was seen in which the movements were much more marked on the right side. There was intense double optic neuritis. Dr. Parkinson considered there was a subcortical tumour beneath the motor convolutions on the left side of the brain, probably gliomatous in nature, and proposed to have the child trephined with the object of preventing blindness and relieving the symptoms.

Dr. Cautley agreed with the diagnosis, but doubted whether operation would do much good.

Mr. Donald Armour considered the case very suitable for trephining.

A Case of Multiple Lupus Vulgaris was shown by Mr. G. Pernet. The boy, aged 10 years, was first seen the end of November last, with two patches of Lupus vulgaris (chin and right shin) of two years' duration. The disease followed an attack of measles—a not unusual history. On December the 7th he scraped the lesions, under an anæsthetic, and this was followed up by X-rays (sixteen exposures to each patch). The chin patch had latterly been treated for small foci of disease.

Concluding Notes of a Case of Splenomegalic Biliary Cirrhosis, with microscopic slides of the liver and spleen, were read by Dr. T. E. Holmes.

Specimens from a Case of Infective Endocarditis were shown by Dr. Cautley.

Specimens of Cirrhosis of the Liver, with obliteration of the bile ducts, were shown by Dr. Porter Parkinson.

Editorial.

THE ALCOHOL QUESTION.

The subject of alcohol has recently occupied a somewhat prominent position in both the medical and lay press, being initiated, no doubt, by the manifesto signed by certain well-known practitioners of the healing art. We do not desire to enter into the question whether it is in accordance with the ethics of our profession to sign a document prepared by a layman—that has been alluded to in Sir James Barr's recently published letter; but we are at issue with the statements themselves. Here we shall merely allude to the effects of alcohol on the child.

It has been shown that alcohol taken into the stomach can be demonstrated in the testicle or ovum within a very few minutes, and may, like any other poison, injure the sperm-cell or the ovum.

Alcohol is a powerful factor in the etiology of epilepsy, idiocy, imbecility, and various forms of degeneration; it is also a factor in the production of miscarriages. Von Bunge has demonstrated that the deficiency of maternal milk is frequently due to the imbibing of alcohol by the parents. If we would improve our national physique, breast-feeding is of the utmost importance, and the experiments of Stumpf show that the amount of milk is not increased by its use, nor is the percentage of its constituents. Alcohol can be traced in the milk within twenty minutes of its ingestion, and for seven or eight hours afterwards. Alcoholic poisoning has often been reported in infants, due to the passage of alcohol into the milk. Alcohol is frequently given in rather a loose way to children during illness or convalescence, and this has occasionally led to the alcohol habit being formed. Indeed, children have been known to contract the alcohol habit through parental encouragement. We consider, too, that the giving of beer for dinner at schools is not unattended by danger, and can recall cases in our own school-boy experience where too much of this beverage was taken.

The discussion of the therapeutic value of alcohol has long been a controversial one. The chief experimental work has been done in

Germany, and the general outcome of it seems to be that it is a toxic drug even in small quantities, and that there is no scientific justification for its employment in medicine. Whether we hold this view in its entirety or not, there is no doubt that it is being less and less used in our hospitals, and this coincides with a diminished mortality. It will need, then, very strong arguments, and much more than the mere assertions of a few members of the profession, to convince us that alcohol is a healthy beverage as well as a valuable drug.

Abstracts from Current Literature.

Medicine.

Severe cases of German measles (‘*Sém. Médicale,*’ *December* 26, 1906, *p.* 613).—**Cheinisse,** after a review of the literature, records a case of his own in a governess, aged 22 years, who had had scarlet fever at seven, and for the last ten years had frequently suffered from sore throat, which had left behind a well-marked hypertrophy of the tonsils. After two or three days' pain in the back, but without any other characteristic prodromes, she developed the rash of German measles. There was some hyperæmia of the pharynx, but it did not at all resemble scarlatinal angina. The rash was beginning to fade when the temperature rose to 104·3° F., the voice became affected, and deglutition extremely painful. The tonsils met in the middle line. The whole of the buccal and lingual mucous membrane was also swollen. The tongue was coated with thick white fur, which, unlike that seen in scarlet fever, invested the tip and edges as well as the dorsum. The teeth were covered with a pultaceous fœtid deposit. Respiration, deglutition, and phonation were performed with difficulty. The local symptoms with prostration and high fever lasted for a week. **Dournel** (‘Thèse de Paris,’ 1906) describes a severe epidemic of rubella at the crèche at Nanterre. Eight out of twenty-seven patients died, fourteen had broncho-pneumonia, eight had bronchitis. The other complications noted were meningitis, subperiosteal abscess, suppurative adenitis, otitis media, crustaceous ulcerations of the nasal fossæ, and green diarrhœa. Only two escaped without any complications. Convalescence was slow in all. Tuberculosis or alcoholism in the parents, artificial lactation, defective hygiene, and previous ill-health are regarded by Dournel as the causes of malignancy in rubella.

J. D. Rolleston.

Diphtheria at the Hôpital des Enfants Malades (‘*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris,*’ *February* 21, 1907).—**Marfan** and **Lemaire.**—There were 689 admissions to the diphtheria block at this hospital during the year ending May, 1906. Five hundred and thirty-four were found to have diphtheria. Of these fifty-four died—a mortality of

10·11 per cent. On subtracting eighteen who died shortly after admission the mortality was reduced to 6·97 per cent. The death-rate, which was higher than in the past year (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, July, 1906, p. 326), was due to the frequent association of diphtheria with measles. More than half the cases were laryngeal. Intubation was performed in 146 cases with twenty-one deaths—a mortality of 14 per cent. Tracheotomy was reserved for the worst cases. Out of fourteen cases there were eleven deaths. In three cases of malignant diphtheria intravenous injections, and in two cases of severe paralysis intraspinal injections, of antitoxin were given. All died. Serum phenomena occurred in 14 per cent. of the cases and were as follows: urticaria in fifty-four, erythema marginatum in twenty-two, morbilliform erythema in seven, localised erythema in fifteen, pains without eruption in three. During the year 644 prophylactic injections were given to the patients' brothers and sisters, four only of whom subsequently developed diphtheria.

J. D. ROLLESTON.

The feeding problem (*'Arch. of Pediat.,'* 1906, *vol.* XXIII, *p.* 801).—**L. Emmett Holt** discusses some phases of the feeding problem. He believes refinements in the percentages of fats, proteids, and sugar down to one-tenth of one per cent. to be unnecessary. The schemes for calculating such percentages are much too elaborate. The essential thing in a satisfactory scheme is simplicity combined with moderate flexibility. High percentages of fat are often harmful. Even with healthy infants the food should not contain more than four per cent., and in many conditions even three per cent. is excessive. When top milk is used it is important to know the approximate percentage of fat in the top half, third or quarter, and to bear in mind that the percentages are not the same in the mixed milk of a herd as in that of a Jersey cow. The essential points in infant feeding to be taught to students are: (1) the normal range of milk percentages borne by infants; (2) the approximate percentage composition of milk, top milk, and cream; (3) the simplest method of obtaining the percentage desired from these ingredients; (4) the necessity of translating at once into percentages any milk formula the patient may be using, and a simple method of making such a calculation. Holt's method is to multiply the percentage of the particular ingredient by the number of ounces used in the mixture, and divide by the total number of ounces in the mixture, *e.g.* ten ounces of 10 per cent. fat milk (top milk) in a forty ounce mixture gives the following results: fat (10 × 10 ÷ 40) 2·5 per cent.; proteid (3·3 × 10 ÷ 40) 0·8 per cent; sugar (4·4 × 10 ÷ 40) 1·1 per cent. In the discussion which followed the general opinion was that a terrible and unnecessary fuss was made over percentage feeding and formulæ, and that too high a proportion of fat was very often prescribed, often on account of the methods of home modification made use of.

EDMUND CAUTLEY.

Acidified milk (*'Arch. of Pediat.,'* 1906, *vol.* XXIII, *p.* 889).—**J. L. Morse** and **H. I. Bowditch** discuss the value of acidified milk in infant feeding. Ballot, of Rotterdam, in 1865 called attention to the use of buttermilk. In the last ten years it has been used in Germany, France, other European countries, and South America. The writers state that buttermilk, buttermilk mixtures, and milk mixtures acidified with lactic acid bacteria are safe foods for infants, whether well or ill. Infants can thrive and gain on them for considerable periods of time. Acidified milk mixtures, modified to suit the individual case, or buttermilk, modified by the addition of cream and milk sugar, should be used. The preparation of these mixtures is not very practicable for private work. They are almost always taken well. The results in cases of malnutrition and chronic digestive disorder are not appreciably different from those obtained by the use of modified milk of the same percentage composition. In cases of intractable disturbance of digestion they sometimes proved more beneficial than modified milk. Pasteurised buttermilk seemed to give as good, or even better, results than acidified milk mixtures. Possibly, therefore, the good results depend on the low fat content and easily digestible proteid rather than on the acidity or the action of the bacteria. Most of those who have used buttermilk have added 10 to 25 grms. of flour and 35 to 90 grms. of cane sugar to each litre, and have brought to a boil in fifteen to twenty-five minutes over a moderate fire, with much stirring. It is then allowed to boil up again two or three times. The caloric value varies between 525 and 700 per litre, according to the amount of sugar and flour added.

EDMUND CAUTLEY.

Syphilis (*'Arch. of Pediat.,'* 1906, *vol.* XXIII, *p.* 914).—**G. de S. Saxe** discusses the diagnosis of late hereditary syphilis in the school child. In only twelve out of 2500, thoroughly examined, did the physical signs justify a presumptive diagnosis of the disease. No family histories were obtained. The children were of both sexes in about equal numbers, and aged six to sixteen years. Eleven of the twelve affected were deficient mentally; eight showed Hutchinson's teeth; four the remains of syphilitic eye lesions, and one active keratitis; three had hydrocephalic heads. All showed retarded development, and seven had rachitic changes in the bones. All had enlarged glands; nine had scars about the mouth; two had lesions of the nose; and two were choreic. The children were in New York schools. The examination yielded signs of early heredo-syphilis, of quiescent late, and of active late disease. The signs are often overlooked, misinterpreted, or cannot be scientifically diagnosed without a family history of the disease. The author regards the typical greyish pallor of the skin as one of the most characteristic signs. Physical signs of puberty appear late. Development is both physically and mentally retarded.

EDMUND CAUTLEY.

Adherent pericardium with ascites (*'Arch. of Pediat.,'* 1906, *vol.* XXIII, *p.* 814).—**S. W. Sappington** and **C. F. Rau** report two cases, practically due to primary tuberculosis of the pericardium. In the first, a boy aged 2 years, the swelling of the abdomen and the illness dated from an attack of measles five months previously. There was much ascites, but no cardiac enlargement could be made out. On four occasions paracentesis was done and 3400 c.c. of cloudy, straw-coloured fluid were removed. Subsequently there was some further effusion but it was re-absorbed. Death resulted ninety-five days after admission. The pericardium was adherent, with intervening sacculations full of milky, purulent fluid. There were no mediastinitis, no peritonitis, and no cirrhosis of the liver, which showed only nutmeg changes. Microscopically, the pericarditis proved tuberculous. There was no general miliary tuberculosis. The second case was a boy, aged 10 years, who had complained of general pains, headache, abdominal pain, and alternating diarrhœa and constipation, for two weeks. A large pericardial effusion and an endocardial bruit were found. As the effusion was re-absorbed the boy became cyanotic and dulness developed at the right base. Ascites was present in two months from the onset, and persisted until death four months later, with anasarca for the last ten days of life. The usual signs of adherent pericardium were absent, and the pulse-rate kept at about ninety per minute. Dyspnœa was present, and intercurrent pleurisy occurred. At the autopsy were found an obliterated and thickened pericardium, marked mediastinitis, right adhesive pleuritis, ascites, no peritonitis, and no perihepatitis, nutmeg liver, and microscopical, but no gross, evidence of tuberculosis. The writers regard adherent pericardium, enlarged liver, ascites, and, very often, multiple serositis as an entity. The symptoms are almost entirely abdominal, and lead to the affection being diagnosed as hepatic cirrhosis, tuberculous peritonitis, or other subdiaphragmatic trouble. Kelly, in 1902, collected thirty-nine cases, some of which were described under the names of "zuckergussleber," indurative mediastino-pericarditis, polyserositis, and pericarditic pseudo-cirrhosis of the liver. Of Kelly's cases only three were under ten years of age, and thirteen between eighteen and twenty years. More recently several cases have been reported under ten years of age. Adherent pericardium may be tuberculous, even when anatomically not characteristic of the disease. It is more difficult to establish a primary tuberculosis of the pericardium, and some writers deny its occurrence. The second case here reported, clinically and pathologically, was primary in the pericardium. Apparently it was an acute tuberculous pericarditis at the onset. The ascites in these two cases was apparently due to the hyperæmia or the liver. It was not the result of cirrhosis or peritonitis. EDMUND CAUTLEY.

Proteids in infant feeding (*'Arch. of Pediat.,'* 1906, *vol.* XXIII, *p.* 825).—**F. M. Fry,** of Montreal, gives a long report, with twenty-five cases, on the proteids in infant feeding, with special reference to whey proteids. Modified milk should not contain more than 0·5 per cent. of proteid for new-born infants. Sometimes this amount is beyond the child's digestive powers, and yet it apparently dies from lack of proteid. Neither reduction of the percentage to an amount which could be digested, nor increase beyond the digestive capacity, judged by the character of the stools, proved satisfactory. The difficulty lies in the caseinogen, not in the lactalbumin. Whey contains no caseinogen, and lactalbumin about 0·6 per cent. (0·30 to 0·86). Fry consequently made use of a mixture containing 0·50 per cent. of proteid as formerly, but consisting of 0·35 per cent. of lactalbumin to 0·15 per cent. of caseinogen about the same relative proportions as present in human milk; fat 2·5 per cent., sugar 5·5 per cent. Barley-water was used as a diluent. The cases consisted of foundlings admitted to hospital during the summer six months. At this hospital the mortality varied from 58 to 63 per cent. The food was taken and retained uncommonly well; the stools showed much more digestion and less curds than previously; diarrhœa was never serious enough to require medicinal treatment; and there were remarkable gains in weight. The proteid was increased by increasing the lactalbumin to 0·5 per cent., with equally good results. Later, the lactalbumin was increased to 0·60 and 0·75 per cent., and was most satisfactory. The caloric value of a litre of the food containing fat 3·0, sugar 6·0, caseinogen 0·15, lactalbumin 0·75 per cent., was 563, while one litre of human milk contains 650 calories (1 gm. albumin = 4·1 calories, 1 gm. sugar = 4·1, 1 gm. fat = 9·3). In order to give as high a percentage as 0·75 lactalbumin, it is obvious that the whey must contain more than this amount. Hence it is necessary to have an estimate made of the albumin-content of the whey. The whey must be raised to a temperature of 150° F. before adding cream in order to destroy the ferment and prevent coagulation of the cream. By evaporating down the whey at a temperature below coagulation point, a desiccated powder can be produced containing the percentages of 13·5 proteid, 74 sugar, 4 fat, and 8·5 salts. On diluting this with water, and adding cream, in suitable quantity, a milk mixture can be made containing the same relative proportions of caseinogen and lactalbumin as in human milk.

EDMUND CAUTLEY.

The systematic weighing of infants (*'Amer. Journ. of Obstetrics,' 1906, p. 832*).—**S. S. Adams** regards weight as a more valuable measure of nutrition than is increase in length. Infants should be systematically and accurately weighed. Failure to double the weight in six months is evidence of insufficient growth. Progressive loss of weight may be due to acute or chronic disease, or to faulty nutrition. The infant should be weighed after the morning bath and before being fed, daily during the first week, and then weekly. The loss during the first week amounts to eight to sixteen ounces, and is due to insufficient food, and discharge of urine and meconium. It should be counteracted by partial artificial feeding until lactation is established. After the third day, the weight of the breast-fed infant should begin to increase. Breast milk is not the best food if the child is steadily losing weight on it, and suffers from lack of nutrition. The anxiety of a mother on account of loss in weight of the child can often be allayed by the assurance that it is merely due to a temporary cause.

EDMUND CAUTLEY.

Pegnin in the feeding of infants (*'La Presse Médicale,' December, 1906, p. 828*).—**J. Comby** asserts that in many cases of infantile dyspepsia the glands of the stomach do not secrete sufficient *lab-ferment*. Pegnin, which is lab-ferment associated with lactose in the form of a white powder, may be added to warm milk (40°), previously sterilised in the proportion of ten grammes to a litre. After vigorous shaking, two or three minutes are allowed for coagulation, and then further shaking causes the disappearance of the fine coagula. The milk may then be given warmed to 37°, and diluted if necessary. To infants at the breast who do not gain sufficient weight Comby orders before each feeding a coffee-spoonful of the breast milk with a pinch of pegnin in it to be given; if, after having examined the milk and eliminated the possibility of enteritis, he concludes that the cause of denutrition lies in the absence of the casein ferment. In many cases milk coagulated with pegnin is of real value, but does not agree in all.

VINCENT DICKINSON.

The relation of entero=colitis with adenoids (*'Rev. Mens. des Mal. de l'Enf.'*).—**M. Guinon** describes eight cases in full which tend to show that acute and chronic illnesses are caused by adenoids. Thus in the former category he places adenoid re-infection after influenza, *i. e.*, a white tongue with red tips and edges, very marked anorexia, more rarely gastric irritability and vomiting. This condition is prolonged beyond the usual limits, the tongue remains dirty in spite of disinfectant, purgative, and dietetic treatment. On examining the throat the tonsils are swollen, red, secreting, the whole mucous membrane swollen, and a purulent fluid flowing from the posterior nares appears at the moment when nausea is caused by the excessive opening of the mouth. In the intestinal form mucus appears in the stools for two or three days, or a definite entero-colitis with dysenteric stools may ensue. Of chronic conditions *the gastric* is a frequent type: the child has offensive breath in the morning, persisting in spite of treatment, the tongue is never quite clean, being white or yellowish on a part of its surface without being distinctly furred, the tip or anterior third is red and raw with prominent follicles. Dyspepsia is shown by a poor appetite in the morning, slowness of digestion, disinclination for fat, distension, yawning, and regurgitation; *the intestinal* type simulates all forms of infantile enteritis, broken stools, mixed with mucus or membranes, or liquid stools, fœtid especially when the diet consists of milk and albumin, or hard stools with scybala covered with thick and often blackened mucus. All these disturbances are unrelieved by ordinary treatment directed to the digestive system, but antiseptic and detergent treatment of the nose with surgical procedures, if necessary, will effect a cure. VINCENT DICKINSON.

The chlorotic type of anæmia in early childhood ('*Rev. Mens. des Mal. de l'Enf.*,' *January*, 1907, *p.* 26).—**E. Leenhardt** describes this condition in his '*Thèse de Paris.*' It is observed most frequently in babies between the ages of 12 and 18 months. Its onset is slow and insidious, so that it is usually between the ages of 18 months and two years that increasing pallor necessitates medical advice. Sometimes it commences earlier, but the pallor does not become disquieting until towards the end of the first year or during the course of the second. The pallor is the most striking symptom, and is extreme, the tissues are blanched, the skin of the whole surface of body and face is white throughout. The capillary system of the little patients seems emptied of blood. The mucous membranes, lips, gums, conjunctiva are colourless, and the ears transparent. The tint is rather that of old wax than the dead white observed in severe hæmorrhages. There is a look of plumpness in the child, and the body weight is normal, whereas other forms of anæmia in early childhood—whether due to gastro-enteritis, rickets, syphilis, or tubercle—are associated with more or less marked wasting and loss of weight. Examination of the blood shows a normal quantity of red corpuscles, with a low colour index, a normal percentage of white corpuscles, and a normal or slightly increased number of hæmatoblasts. There are disturbance of appetite, vomiting, and constipation, also nervous and psychical disturbances. Sleep is light, irregular, and restless. The size of the spleen is normal, and there is, according to Marfan, a slight persistent rise of temperature (37·5° C.). VINCENT DICKINSON.

A study on the absorption of fats in infants ('*Montreal Med. Journ.*,' *December*, 1906).—**Shaw** and **Gilday,** as the results of a very interesting research, conclude: (1) That about 4 per cent. in nurslings and 5 per cent. in bottle-fed infants of the fat ingested appears in the fæces. This fat is to a great extent fat that has escaped digestion. (2) The fatty compounds in the fæces exist as neutral fat, fatty acids, and soaps. The fatty acids are usually in excess of the two other constituents. (3) The soaps are relatively increased in artificially fed infants, in infants with a lower percentage of fat in the food, and in infants with diarrhœa. J. PORTER PARKINSON.

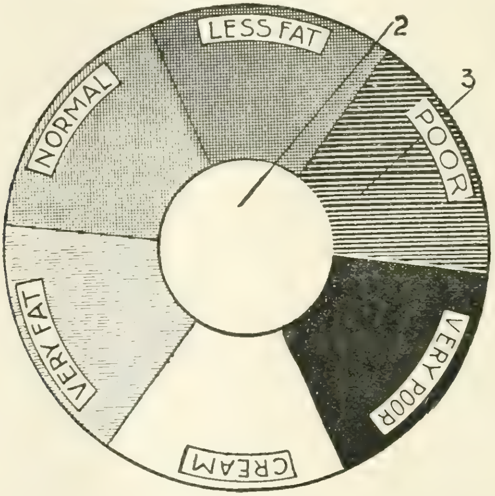
Tetanus following vaccination ('*Montreal Med. Journ.*,' *December*, 1906).—**England** records the case of a child, aged 5 years, vaccinated with surgical precautions, and covered for eight days with sterile gauze. Nineteen days after vaccination there was difficulty in opening the mouth, and in swallowing, and had attacks of general rigidity. The vaccination wound was then a round, punched-out sore with sero-purulent secretion, and with redness, swelling, and induration of the surrounding skin. This was excised the next day freely, and 10 c.c. of antitetanic serum injected into the surrounding tissues, 4 c.c. was injected into the subarachnoid space in the lumbar region, and 5 c.c. injected subcutaneously. The next day convulsions occurred, slight at first, and then becoming more severe, with general rigidity in the intervals, and he died from respiratory failure. Other tubes of the vaccine were examined for the tetanus bacillus with a negative result.

J. Porter Parkinson.

Mongolian imbecility (‘*South African Med. Record*,’ *December*, 1906). —**Baumann** describes first the typical features of this interesting condition. The small, squat features, with short, stub nose, with broad, flat bridge, and nostrils looking more forward than usual. The eyes are almond-shaped, and the palpebral fissures are abnormally oblique, pointing upwards and outwards. A well-developed epicanthus is present. There may be strabismus and nystagmus. The cheeks are flabby and redundant, the skin ruddy, the hair soft and abundant. Mouth is open, with tongue often protruded slightly. The head is brachycephalic, flattened posteriorly. The development of the body is retarded. There is a deficiency of muscular tone and strength, and co-ordination is acquired later than usual, the child not holding up his head till seven or eight months, and not sitting till eighteen months old or so, and not walking till three or four years old. The teeth appear late, and are irregular in sequence. The little fingers of both hands curve inwards towards the ring fingers, and may be rather short. The tips of the fingers are thin and tapering, unlike those of a cretin. The children are anæmic and liable to gastro-intestinal disturbances and circulatory defects, and sometimes have a congenital malformation of that organ. Apart from the special features, the Mongolian imbecile may present any or all of the stigmata of degeneration. A high-arched or cleft palate, hare-lip, club-foot, spina bifida osculta, cryptorchidism, etc. They are cheerful, lively, and amiable; they have considerable powers of mimicry. In the adolescent, the skin becomes coarse and papillated. The hair is scanty, dry, and wiry; the bridge of the nose is more depressed; the voice rough and guttural; the joints rather stiff, the movements clumsy. They often grow stout, and may suffer from convulsions. The tongue is irregularly fissured, and the circumvallate papillæ hypertrophied. They are under-sized, though well proportioned, and below normal in weight and strength. Mentally they are more or less deficient. The disease is fairly common, about 5 per cent. of all cases of mental deficiency. Males and females are equally affected. Tubercle and syphilis have both been quoted as possible causes. They are generally the offspring of parents who are both over forty years of age, and may be the result of a defect of formative force traced to intra-uterine life. Nothing definite has yet been found at necropsies. The brain is not markedly abnormal in weight or number or character of the convolutions. Wilmarth says the pons and medulla are unusually small. The diagnosis is easy as a rule, and the peculiar condition of the tongue described above is said to be pathognomonic. It may sometimes be mistaken for cretinism or congenital syphilis. Most of the cases die in infancy or early childhood from pulmonary or digestive disorders. The mental outlook of those that survive is very grave; they may be employed in gardening or farming. The speech, as a rule, remains unintelligible. No drug is of any specific value. The treatment is hygienic and educational. J. PORTER PARKINSON.

The treatment of whooping-cough by chloroform inhalations (*'Journ. de Méd. de Paris,' December*, 1906).—**Levasort** relates ten cases of whooping-cough treated by chloroform inhalations, after which the attacks ceased completely. He mentions six cases treated by Rothschild: these were improved but not cured—indeed, the duration of the illness seemed not to be shortened. The author, therefore, is not too enthusiastic as to the result of this method. J. PORTER PARKINSON.

A new milk-tester (*'Pacific Med. Journ.,' November*, 1906).—**H. E. Cerf** describes a simple instrument for estimation of fat in human milk. It consists of two discs: one made of rubber with a central depression in which to place a drop of milk; the second disc is made of glass, with a transparent ring in the centre through which the colour of the milk can be seen when it is placed over the first disc. Surrounding the central area are numerous other areas representing the colour of the milk of different compositions. J. PORTER PARKINSON.



Lymphadenoma treated by injections of cacodylate of soda (*'Journ. de Méd. de Bordeaux,' November*, 1906).—**Codet-Boisse** relates the case of a boy, aged $5\frac{1}{2}$ years, who had for a year had enlarged glands on the left side of the neck, gradually increasing in size and number till the trachea was displaced to the right. There was no evidence of other glandular enlargements, but the spleen was palpable. The blood examination showed slight diminution of hæmoglobin, but no other gross abnormality. He was given every other day an injection of 2 centigrams of cacodylate of soda into the tumour, with the result that the tumour rapidly diminished in size. The general health remained good. J. PORTER PARKINSON.

Lumbar puncture, with particular reference to the pressure of the cerebro-spinal fluid (*'New York Med. Journ.,' November* 17, 1906).—**Heiman,** in describing the technique of lumbar puncture, locates the desired space by an indentation of the finger-nail between the two spines. The exact spot should be in the median line in children, and 5 to 10 mm. to the right in adults. A guard should be fixed on the needle at an approximate distance, and with the left hand pressing firmly on the spine above, the operator inserts the needle at the nail-mark in a direction having an angle of about 10° with the horizontal (in adults the direction must be also inclined slightly inwards). The stilette is then withdrawn, and the needle is connected with a manometer. The horizontal arm of the manometer tube is held about 3 cm. below the level of the needle, until the cerebro-spinal fluid appears in the manometer; it is then raised to the level of the needle, and the pressure is read off. The tube is again lowered, and some of the fluid drawn off for examination. From time to time the pressure should be gauged by raising the tube to see whether the normal of 3—5 cm. has been reached. Quincke points out the danger of allowing the pressure to fall much below normal, especially when it is high at first and the decrease is rapid. If the flow is slow it may be increased by sitting the patient up and making him bend forwards and at the same time cough, cry, or breathe deeply. In performing lumbar puncture the manometer should always be used, as it is the best means of determining how much fluid should be withdrawn. In adults the normal quantity of cerebro-spinal fluid is said to be from 15 to 60 c.c., and in a normal case not more than about 15 cc. can be obtained. The author's experience comprised cases of serous, cerebro-spinal, tuberculous, streptococcal meningitis and hydrocephalus. In patients varying in age from three months to twelve years the highest pressure found in forty punctures was 54 cm., and the lowest 4 cm., the average being 26·2 cm. The average amount withdrawn to reduce the pressure to normal was 32 c.c., the maximum being 60 c.c., and the minimum 5 c.c. In hydrocephalus large quantities of fluid can be withdrawn, and in one case the writer removed more than 150 c.c. on three separate occasions. If fluid does not appear after waiting for a reasonable time and the employment of the methods described above, the puncture should be repeated in another space: to go farther than this is seldom justifiable. The cause of a dry tapping is either the propulsion of the dura mater before the point of the needle, the blocking of the needle, an abnormally small amount of fluid, or the closure of the foramen of Majendie or of the aqueduct of Sylvius from inflammation or the pressure of a tumour. The usual depth to which the needle has to be inserted is from 2 cm. to 4 cm. in children, and from 4 cm. to 7 cm. in adults. Heiman lays stress on the importance of the routine use of the manometer, as by this means the pressure can be observed and a fall below the normal avoided. Many of the fatalities are probably due to a too rapid evacuation of the fluid. T. R. Whipham.

The loss of the patellar reflexes in croupous pneumonia in children (*'Münch. med. Wochens.,' No.* 30, 1906).—**N. A. Kephallinos** has re-investigated the changes in the patellar reflexes in lobar pneumonia in children which have been pointed out by Pfaundler and other observers. The knee-jerks were examined in sixty-five cases of undoubted acute croupous pneumonia in children ranging from four to fourteen years of age. Amongst these, the knee-reflexes were completely absent in 41·5, and much diminished on both sides or absent on one or other side in 7·7 per cent. of the cases. At the same time, the occurrence of Herpes labialis, an admittedly common feature of pneumonia, was noted, with the result that disturbance of the patellar reflexes was found to be present eight times more often than this sign. The reflex returned to the normal in every instance of the twelve cases in which its condition was systematically studied, whilst the patient was still under observation: on the day of the crisis in six, on the day following the crisis in four, and on the second day after the crisis in two cases. Although there were many severe cases, including some of the pseudo-meningitic type, amongst those examined, the mortality was *nil*. The reflex is lost some days before the onset of the pulmonary changes, and the writer repeatedly was able correctly to diagnose pneumonia on the strength of altered knee-jerks in children with high temperatures in whom, for a day or two afterwards, no signs of consolidation could be discovered; later, these cases developed typical pneumonia. It has been stated that the Argyll-Robertson pupil is met with in these cases in children, but the writer failed to elicit either this sign or any other changes in the reflexes save those mentioned. In conclusion, he summarises his observations by stating that the absence or diminution of the knee-jerk is a frequent feature of the initial stages of croupous pneumonia in children, and that, in correlation with other indications, it constitutes a valuable diagnostic sign.

E. P. Baumann (Johannesburg).

The varieties and causes of infantilism ('*Münch. med. Wochens.*,' *No.* 30, 1906).—**G. Anton** defines infantilism as a condition which becomes apparent at the onset of manhood, and is the consequence of a variety of diseases of childhood. These disturbances result in a morbid persistence of the characteristics of childhood and adolescence through adult life, and beyond it into the period of old age. Infantilism thus represents an interference with development, and an inhibition of growth which lasts throughout intra-uterine life, but which, as is sometimes demonstrable, depends upon an imperfect physical constitution or upon intra-uterine developmental disturbances. The condition is characterised by debility, delicacy, and inhibition of growth, which usually affect the organism as a whole, but may be confined to a portion of it. In typical cases the subject retains a childish form of body; there is inhibition of sexual development; and mentally, too, the characteristics of childhood are retained. The condition varies in type and degree in accordance with its causation. It is well known that early intra- or extra-uterine diseases of the thyroid gland play an important *rôle* in the causation of dwarfism (*e.g.*, cretinism), and some observers would ascribe all infantilism to this source. Others, however, recognise that the thyroid gland may be healthy in well-marked instances of this condition. Diseases of certain other glands besides the thyroid may result in infantilism, as is shown by the results in many cases of extirpation of the sexually functionating glands in young animals, and in man after syphilitic disease of the testicles in infancy. Disease of the adrenal bodies stands in direct relationship to cerebral developmental defects such as hemicephalia, anencephalia, etc. Persistence and other anomalies of the thymus gland are frequent accompaniments of infantilism; in animals the extirpation of this viscus has been shown to result in fragility of the bones and in retarded callus formation. The fact is daily becoming more definitely established that many glands possess an internal secretion of great moment to the growth and development of the organism and its constituent members. Disturbances of this secretion may result in interference with mental and physical growth, with metabolism, and with the formative forces. In addition to this factor, two others are of great importance, viz., *first*, the fact that in young individuals traumatism, particularly if characterised by severe shock, may result in an arrest of growth from the date of the injury; and, *secondly*, the fact that primary disturbances of the cerebral functions may determine the production of infantilism. The reaction between the brain and glands of the body is a complementary one, and it may roughly be said that the influence of the central nervous system over the glandular system is as decisive as that on the musculature; nor is its control over the remaining organs, including the skeleton, less powerful, as is plainly evidenced by the occurrence of infantilism in encephalitis and porencephaly. In conclusion, the writer offers a classification of the varieties of infantilism based upon the foregoing considerations: (A) General infantilism: (1) Infantilism in myxœdema and cretinism; (2) in Mongolism; (3) as the result of absence or atrophy of the genitals; (4) as the result of disease of other visceral glands, *e. g.*, adrenals, thymus, pancreas; (5) dystrophic infantilism: (*a*) in atrophy of the circulatory system; (*b*) in primary cerebral lesions; (*c*) in congenital syphilis; (*d*) in hereditary alcoholism or other parental intoxications, *e.g.*, saturnism, etc.; (*e*) in early constitutional diseases, *e.g.*, tubercle, chlorosis, heart disease, etc.; (*f*) in defective social conditions, *e. g.*, underfeeding. (B) Partial infantilism: (1) dwarfing of the sexual organs; (2) deficiencies in the cardio-vascular system; (3) arrest of voice production and the organs concerned; (4) hairless condition of the face, pubes, etc.; (5) mental arrest. E. P. Baumann (Johannesburg).

The nature and treatment of the nutritional disturbances of infancy ('*Münch. med. Wochens.*,' *January* 1, 1907).—**M. Pfaundler** divides the nutritional disturbances of infancy into two great groups, viz. (1) those dependent upon faulty dieting, and (2) those dependent upon bacterial and infectious processes. In addition, a third group has been suggested to embrace those cases in which the mischief may be traced to some anomaly of physical constitution. The first variety, it is broadly stated, produces ill-health which lowers the resistive powers of the subject towards noxious bacterial invasion, whilst it is the second which kills the infant. Nutritional disturbances are met with chiefly in artificially nourished infants; in breast-fed children they may also occur, but are then seldom of a severe type and rarely bear grave consequences. In the majority of cases in which artificial feeding is resorted to, all requirements being fulfilled as to "humanising" the milk and general hygienic supervision, the results are good and the child thrives. In numerous instances this is, however, not the case, and the infant speedily presents evidences of malnutrition and digestive disturbances. Formerly this condition was invariably ascribed to bacterial infection, but we now recognise that in this event other symptoms, such as pyrexia, convulsions, etc., would, on the one hand, present themselves in every case, whilst, on the other hand, identical disturbances are met with when the milk employed is free from germs (*e.g.*, sterilised). Biedert, who first offered a feasible explanation of this condition, attributed it to the action of the proteids of cow's milk, which differ from those of human milk in that the casein is precipitated in large and coarse flakes that are difficult of digestion. This hypothesis received little support, for no better results are achieved when measures are adopted to produce casein formation identical with that of the human type. Czerny and Keller next suggested that the disturbances were due to the fat contents of cow's milk and a form of acid intoxication. Their hypothesis was based upon two main factors, viz. (1) the appearance of large quantities of fatty acids in the stools in these cases, and (2) the observation that an increase in the amount of fat administered aggravates, whilst diminution improves, the condition of the infant. The rejoinder to this is, in the first place, that an abnormally fatty character of the stools does not exist beyond doubt, and that even if this were the case an exaggerated excretion of the fatty acids might be the results of disturbances produced by other factors. Secondly, if the disturbances depended entirely upon the fat contents, infants should do well when attention is given to the control of this factor in the preparation of cow's milk; in practice such has not proved to be the case. If either the proteids or the fats of cow's milk were the cause of the disturbances produced the milk should be harmless if these substances were replaced by others free of deleterious action and yet yielding the required dietetic elements. Experiments in this direction have been recorded by Meyer, who fed a group of healthy infants on cow's milk from which the casein and fats had been removed and replaced by human fat and casein, with the result that disturbances of nutrition rapidly supervened. In a second group human milk was used in which the constituents named were replaced by casein and fat derived from cow's milk; in this group the results were as good as if pure human milk had been used. These results indicate that neither of the constituents mentioned produces the disturbances, but that the mischief is caused by the fact that the infant is inherently unable to thrive on milk derived from any species but its own. Morro only recently showed, conversely, that new-born calves do not thrive on human milk, and earlier observers have obtained similar results for young lambs, pigs, dogs, guinea-pigs, and rabbits who were fed from birth on cow's milk. Hamburger first offered an explanation of this condition of affairs based upon bio-chemical considerations. On this hypothesis the various species differ not alone in the form and appearance, but also in the bio-chemical properties of their cells and tissues. When a digestive cell element is exposed to solutions containing proteids from the milk of some foreign species of mammal its bio-chemical integrity becomes endangered, as the cell, for purposes of self-preservation, is stimulated to excessive action in the process of endeavouring to embody the foreign material within its own substance. The process involved is that of digestion, absorption, and assimilation, the cells concerned being subjected to a varying degree of irritation during the process. In this sense foreign proteids act as an irritant poison. The proteids, on the other hand, of milk from the same species are easily dealt with by the cells of the digestive apparatus, to which they offer but slight irritation. As the infant grows older its resistive powers become strengthened, and the irritation produced by foreign proteids no longer exceeds physiological bounds—in other words, a form of immunity to the poison of artificial milk is acquired, and it has even been suggested, although this proceeding has met with scant success in the case of the lower animals, that infants might actively be immunised by subcutaneous injections of cow's milk! The writer regards the explanations of neither Biedert, Czerny and Keller, nor Hamburger as convincing, and suggests that the cause may be a negative one, consisting, not in the administration of some poisonous substance, but rather in the omission of some indispensable factor which is supplied by natural feeding or by milk from the same species. Meyer's experiment, in which only the whey of cow's milk was left untouched, with satisfactory results to the infant, indicates that this hypothetical missing substance is not supplied in the casein or fat of human milk, but that the whey itself represents the essential factor. There is some indication that the factor in question is of the nature of a ferment. In the first place, sterilisation appears to impair the value of human milk as a food, showing that the essential substance is of a thermolabile nature and destructible by heat. Secondly, the fact that infants will thrive on cow's milk, provided that one or two breast-feeds are given daily in addition, implies that the substance in question is of the nature of a ferment which will leaven a mass of foreign milk. Finally, the fact that infants and young animals thrive best on the milk of their own species weighs in favour of the existence of some specific ferment. In other words, the newly-born infant receives from its mother some substance contained in the whey of her milk which forms an aid—in some cases an indispensable aid—to the undeveloped assimilative powers of the digestive cell elements, and which functionates only in subjects of its own species. As some infants thrive on artificial milk it must be assumed that these possess the power of fabricating this substance independently. The general conclusion to be arrived at as regards the *treatment* of these cases of nutritional disturbances is, thus, an insistence upon the value of breast-feeding, preferably by the mother herself, or, failing this, by means of a wet-nurse. Where breast-feeding is unavailable the condition must be combated by diminishing the quantity and increasing the dilution of the cow's milk used, until the condition of the child improves, the meteorism subsiding, and the stools losing their unhealthy character. As soon as this is achieved an apparently paradoxical increase in weight will often follow. In other instances no increase occurs, the dystrophic infant having passed into a condition of starvation. The caloric value of the food must then be raised by the addition of cereals. Prepared and predigested foods should be avoided; for young infants mucilaginous preparations of barley and rice, and for older infants similar preparations of wheat and oats, may be used, as also butter-milk and Liebig's extract of malt soup.

E. P. Baumann (Johannesburg).

Tetany associated with dilatation of the large intestine (*'Lancet,' January* 19, 1907).—**F. Langmead,** at a recent meeting of the Clinical Society, read notes of three cases of children in whom relapsing tetany had been associated with dilatation of the large intestine. These cases, he maintained, formed a definite and apparently hitherto unrecognised group, to which four attributes were common: (1) obstinate relapsing tetany; (2) abdominal distension; (3) offensive, unhealthy motions; and (4) a dilated large intestine. The disappearance of the tetany after irrigation of the bowel, and its reappearance when accumulation of the characteristic fæces took place, showed that it was due in these cases to toxic absorption from the bowel. This favoured the toxæmic theory of tetany in general. Malnutrition, which was present in these as in most described cases, probably acted by producing an unduly irritable nervous system.

James Burnet (Edinburgh).

The relation of rheumatism and erythema nodosum (*'Lancet,' January* 26, 1907).—**T. Odery Symes** points out that, in contra-distinction to rheumatism, erythema nodosum attacks females mostly, shows no seasonal variation, is not associated with micrococci, is seldom associated with tender joints, and that it rarely recurs. Moreover, salicylates have no effect on erythema nodosum. He further mentions that cases of erythema nodosum occur sometimes in groups, but no epidemic of the disease has ever been recorded. He supports the view that this is a specific acute febrile disorder, that infection takes place through the tonsils or lungs, that after a prolonged incubation period and period of prodromal symptoms a specific rash appears, and that convalescence is accompanied by profound anæmia and malaise. James Burnet (Edinburgh).

Colo-rectitis in early infancy (*'Brazil Medico,' October* 1, 1906).—This is not a new disease that the writer has invented, but **Pinto** remarks a new name for a disease which is especially common in the new-born. In the most severe cases the large intestine, as well as the entire rectum, is intensely inflamed. There is continued tenesmus leading reflexly to general convulsions; the anus is extruded in a funnel-shaped form; there is at first a sanguineous discharge, soon becoming purulent. The contractions of the sphincter can be seen even when there is no evacuation. The mortality is very high. The usual therapeutic measures are quite worthless. The smallest irrigation tube cannot pass into the rectum; purgatives, which are all delayed in action, only provoke further tenesmus. The treatment to be adopted is, *locally*, fomentations to the anus and to the abdomen, and bleeding; internally, opiates, disregarding the age of the patients. Opium must be given in small and repeated doses under the observation of the doctor or of a capable nurse. A risk must be taken if any attempt is made to save the baby's life. When the tenesmus is relieved, then is the time to administer salines, ipecacuanha, quinine, intestinal irrigations, according to the nature of the colitis. M. D. Eder.

The clinical value of leucocytosis in infantile appendicitis (*'La Semana Médica, November* 15, 1906).—**Acuña,** in a paper read to the Argentine Medical Society, sums up the results of his observations as follows: A polynuclear leucocytosis accompanies every attack. Diseases that simulate appendicitis do not alter the leucocytic count. Slight and transitory leucocytosis, with a good general condition, denotes a mild inflammatory attack. Persistent high leucocytosis denotes the presence of pus. During appendicitis, a diminishing leucocytic curve means the probable absorption of the pus. There is an exception to these rules, however, when the general condition is bad, and there is at the same time no leucocytic reaction. An extreme alteration in the means of defence is denoted. After the evacuation of the pus, the leucocytic count falls suddenly; if it does not, there is probably another focus of suppuration which has not been opened.

M. D. Eder.

Pathology.

Etiology of infantile tuberculosis (*'La Presse Médicale,' December,* 1906, *p.* 833). –**A. Calmette,** in reviewing the recent researches of Guérin and others, states that whatever may be its localisation, *the first tubercular lesion is always vascular.* This fact has been established by Letulle, and therefore one is forced to admit that the agent producing it comes either from the lymph or from the blood. If the air which penetrates into the pulmonary alveoles were the *habitual* vehicle of the tubercle bacilli, how can we explain that, in the young child, pulmonary tuberculosis is so uncommon and laryngeal tuberculosis so exceedingly rare? If the tubercle bacilli are introduced into the organism by the respiratory passages, by the mucous surfaces or skin, *it is only because of some previously existing lesion of these tissues*, and it is exceptional. Admitting that the *bovine* bacillus is more virulent for man than the *human*—which seems doubtful—it would not follow that it was the principal agent in human contamination. Milk, which is the usual medium by which it can be introduced into the digestive tract, rarely contains a sufficient quantity of bacilli to cause a severe infection. It is now established by numerous experiments that many microbes and mineral powders of the same size can easily penetrate the mucous membrane without leaving any trace; they insinuate themselves between the epithelial cells like the particles of chyle, and flow with it until they become the prey of the polynuclear leucocytes. This absorption of microbes by the healthy intestinal mucous membrane doubtless plays an important part in the majority of infectious maladies of children, *e.g.*, broncho-pneumonia. It would be of great interest if in children's hospitals the mediastinal and mesenteric glands of *all* children dying of respiratory affections could be inoculated into the peritoneum of guinea-pigs – it would show that very often these children dying of *lung* mischief, such as pneumococcic and streptococcic infections and influenza, have their mesenteric glands already damaged by tubercle bacilli. VINCENT DICKINSON.

The microbe of whooping-cough ('*Rev. Mens. des Mal. de l'Enf.*,' *October*, 1906, *p.* 472).—**Bordet** and **Gengou** announce this discovery in a communication made to the Royal Academy of Medicine of Belgium. The microbe of whooping-cough is a bacterium of small size and ovoid shape, staining feebly, especially in the centre, with phenic methylene blue or with toluidine. It does not form spores, and is killed by heating to 55°. It can be isolated by using a culture medium consisting of a mixture of defibrinated human blood with an equal quantity of gelose containing a little glycerine and potato decoction. The microbes in the expectoration multiply feebly in the first culture, and it must be incubated for two days. It will not develop in the usual media, such as gelose, gelatine, or broth, which have not had organic liquids added. It is most abundant during the early paroxysms; later on, the invasion of the sputum by buccal bacteria is so pronounced that the isolation of the specific microbe becomes extremely difficult. The difference between the microbe discovered by the authors and that of Pfeiffer and others is entered into at length. The authenticity of the microbe is proved by the following considerations: (1) Every time that a leucocytic secretion is procurable during a paroxysm at the commencement of an undoubted case of whooping-cough in a young child who has never previously suffered from any affection of the respiratory passages, the microbe is found in considerable quantities. (2) The serum of children recently recovered from whooping-cough has a distinct agglutinative power, according to the Bordet-Gengou method, which is not found in the serum of other individuals. The results of the experiments in sero-therapy made by the authors will be communicated to the Academy later on.

VINCENT DICKINSON.

A case of abnormal development of the œsophagus ('*Lancet*,' *January* 19, 1907).—**J. E. Spicer** records the case of a full term female child of seven and a half pounds, the subject of imperforate anus. There were no other external abnormalities. The child was operated on, but the rectum could not be found. The child died twenty-two hours after birth. The mother said her last child was a "blue baby with a hole in its heart," who only lived four hours. Previous to this there had been a miscarriage, but the rest of the children (there were ten in all, including the patient) were alive and well. The father's brother is stated to have a child with congenital talipes. Post-mortem the œsophagus at its upper part was found to end in a dilated *cul de sac*, while the lower end opened above into the posterior wall of the trachea immediately above the bifurcation. The right side of the heart was found much larger than the left, and the right auricle was hypertrophied and dilated. There was no trace of septa in the foramen ovale. The veins from the right lung opened into the left auricle so close to the patent foramen ovale that a large part of the blood probably entered directly into the right auricle. There were found present right and left superior venæ cavæ. There was no right aortic arch (just as was present in two other cases previously described by the writer). The left ureter showed the presence of a well-marked constriction immediately below the pelvis. There was imperforate anus, but the sigmoid was well developed. The lungs, intestines, and other organs were normal.

James Burnet (Edinburgh).

Therapeutics.

The effect of chloral hydrate on the nephritis following scarlet fever ('*Therapeut. Gaz.*,' *January* 15, 1907).—**Royer,** in investigating the routine treatment of scarlet fever with chloral hydrate, as originally advocated by J. C. Wilson, confirms the latter's observations that when the drug is administered in doses of sufficient size to secure light somnolence throughout the febrile period, and for some days afterwards, post-febrile nephritis appears to be less frequent than when the usual remedies are employed. The nervous symptoms and the itching of the skin, which is so often annoying, are also less marked, and the patient is rendered more comfortable. The author, however, is unable to agree with Wilson that chloral gives rise to an early diuresis. An increased flow of urine during the first two days undoubtedly did occur, but this was found also in patients treated by other methods, and is to be attributed to better nursing, the systematic use of water in definite quantities, and the greater ease with which liquids are swallowed as the angina subsides. The doubts which the writer at first felt as to the action of the drug upon the heart were not found to be justified, as no depression of the circulation was produced, as far as could be observed clinically, although it was given to patients who were greatly prostrated on admission. The conclusions are based on a study of 800 cases treated with chloral, and 756 treated by other means. Post-febrile nephritis occurred in 5·5 per cent. of the former and in 7·76 per cent. of the latter, the two series consisting of as nearly parallel cases as could be selected. It is the custom in the Municipal Hospital of Philadelphia to give a dose of diphtheria antitoxin to all anginose cases of scarlet fever. Nephritis occurred rather more frequently in cases receiving antitoxin, but this was only to be expected from the severity of the disease, and should not be attributed entirely to the serum. An inquiry into the time when nephritis most frequently develops showed that the period of greatest danger was from the twentieth to the thirty-second day. The author does not venture on an opinion as to how chloral acts on the kidneys themselves. T. R. Whipham.

The use of oxygen in asphyxia neonatorum ('*Med. Record,*' *November* 10, 1906).—**Spivak** points out the value of oxygen in the threatened asphyxia of newly-born children. The usual methods of stimulation and artificial respiration will often pull a child round, but the author quotes two instances in which a baby was thought to be dead, but was restored to animation by the administration of oxygen. The author could not find this treatment mentioned in the text-books, nor was it the practice of his obstetrical friends. T. R. Whipham.

On the treatment of diabetes with secretin (*'Bristol Med. Chir. Journ.,' September,* 1906).—**J. R. Charles** has treated three cases of diabetes with secretin on the basis of the discoveries of Bayliss and Starling. These observers have shown that when hydrochloric acid comes into contact with the epithelial cells of the duodenum and upper part of the jejunum a substance is found therein, to which they gave the name of secretin. This substance is carried by the blood-stream to the pancreas, on the external secretion of which gland it acts as a specific stimulant. The idea has been promulgated that it is possible, since secretin acts as a stimulus to the visible external pancreatic secretion, that it may similarly stimulate the assumed internal secretion. Some forms of glycosuria are considered to result from the absence or diminution of this secretion. **Moore, Edei,** and **Abram** have recently ('Bio-chemical Journal') recorded successful results in three—two of these being children—out of five cases of diabetes treated on these lines. The writer employed this method of treatment in three cases of the disease, but, unfortunately, with entirely negative results. At present it is quite uncertain what type of diabetic patient is likely to respond to the treatment, and the writer considers that negative as well as positive cases should be recorded, in the hope that some facts will thus be brought to light which may make this point more clear.

E. P. Baumann (Johannesburg).

Treatment of post-diphtheritic paralysis (*Soc. Méd. Hôpitaux: 'Münchener med. Woch.,' No.* 30, 1906).—**J. Comby** states that for five years he has treated all cases of post-diphtheritic paralysis by repeated injections of large doses of Roux's antitoxin. Twenty-six of his cases were cured, whilst two others terminated fatally under treatment by electricity, strychnine, and stimulation. He has consequently come to the conclusion that every diphtheritic paralysis, whether late or early, and whether generalised or localised, should be treated by the serum method. The serum should be used in doses of from 10 c.cm. to 20 c.cm. daily, according to the age of the patient, until 60 c.cm. to 80 c.cm. have been injected. Repeated in this fashion the injections are harmless, and any untoward effects (erythema, etc.) are slight. Neither the age nor the previous health of the patient (*e.g.*, arteriosclerosis in adults) constitute a counter-indication to this energetic treatment. The injection should be commenced as early as possible in every case of post-diphtheritic paralysis, quite independently of a history of previous employment of antitoxin for the primary throat lesion.

E. P. Baumann (Johannesburg).

Surgery.

Intestinal diverticula (*'Amer. Journ. of Obstetrics,'* 1906, *p.* 843).—**C. F. Kivlin** reports two cases. One, aged 4 years, presented a round red tumour, about half an inch in diameter and looking much like a cherry, at the umbilicus. It was noticed two months after birth, varied in size, and continually discharged a white fluid, sometimes blood. At the summit there was an opening with slightly everted edges. It was due to a Meckel's diverticulum, four inches long, attached to the ileum, opposite the mesentery, and about four inches from the cæcum. A probe passed through it easily into the bowel. The diverticulum was removed and the child recovered. The second case was that of a woman, aged 62 years, who presented at autopsy a large number of acquired diverticula, forming a double row of hernial pouches on the sigmoid and rectum. Edmund Cautley.

Congenital dislocation of the humerus ('*Montreal Med. Journ., December*, 1906).—**Forbes, White,** and **Ruml** mention the case of an infant, aged 9 months, in whom the head of the right humerus was found displaced backwards on to the scapula, lying in the infra-spinous fossa firmly fixed. The arm was pronated, and the elbow flexed. The shoulder could not be abducted, and forward and backward movements were very limited. The following muscles showed the reaction of degeneration : supra- and infra-spinati, latissimus dorsi, pectoralis major, deltoid biceps, supinator longus, extensor longus digitorum. The paralysed muscles mostly belong to the fifth and sixth cervical segments of the cord. The mother had a long and difficult labour, forceps being used. The exhibitors considered the dislocation was due to the extensive muscular paralysis, which was, no doubt, a variety of so-called obstetrical paralysis. J. Porter Parkinson.

Extensive gangrene following contact with a live wire ('*Buffalo Med. Journn.,' January*, 1907).—**Jacobson.**—A boy, aged 12 years, fell from a roof, and grasped an electric wire carrying 6600 volts and an amperage of ninety. The left foot came into contact with the other wire. He then fell. The left hand was strongly contracted, and it and the forearm were colourless. The left foot was in the same condition. The limbs could not be straightened even under deep anæsthesia. They passed into the condition of dry gangrene. A fortnight later secondary hæmorrhage occurred from the branchial artery, which had to be ligatured. The leg was amputated above the middle third, and the arm close to the shoulder, three weeks after the injury. The boy finally recovered. The case was not one of electric burn ; in some way the arterial supply was immediately cut off through vaso-motor contraction or coagulation of the blood. The case appears to be unique of its kind. J. Porter Parkinson.

Re-integration of the absent middle third of the tibia in a child ('*The Australasian Medical Gazette,' November* 20, 1906).—A child, aged 6 years, had a useless right leg, owing to the loss of the middle third of the tibia, resulting from an injury four years previously. **Thomas Fiaschi** decided to re-form the lost portion of bone by transplanting two flaps of skin, periosteum, and bone, one to be taken from the upper third of tibia and brought down, the other from the lower third of tibia to be brought up. The first operation was performed in December, 1905, and after Röntgen-ray examinations had shown that the piece of bone was growing, the second operation was carried out in April, 1906. When presented in November, 1906, to a British Medical Association meeting, the child was able to stand and walk, but was still wearing a leather case to prevent any bowing of the newly-formed bone. The author gives reasons for not employing grafts or transferring the middle third of the fibula to the tibia as was done recently by Huntingdon. M. D. Eder.

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Original Articles.

TUBERCULOSIS OF THE TESTIS IN CHILDREN.*

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The frequency with which tubercular disease of the testis occurs in children has been a matter of some dispute. Hutinel and Deschamps, discussing tubercular epididymo-orchitis, state that it is not much rarer in infants than in males after puberty, and Mr. Jacobson, commenting on this statement in his work on diseases of male organs of generation, makes the following remark:

"This must be contrary to the experiences of most English surgeons. During the twelve years in which I have been Surgeon to the Hospital for Children and Women only four cases have been admitted under my care, and during the sixteen years in which I have seen out-patients in Guy's Hospital, the proportion has been smaller still."

These statements of Mr. Jacobson must, I think, be accepted as representing the average statistics seen at London hospitals. During two years' out-patient work as Clinical Assistant at the Hospital for Sick Children I did not meet with a single instance of tubercular epididymo-orchitis, although several cases of tubercular disease of the tunica vaginalis, secondary to tuberculosis of the peritoneum, presented themselves for treatment. To carry on Mr. Jacobson's statistics, at the Royal Waterloo Hospital for Children and Women, during the last three and a half years, I have not seen a case of tuberculosis of the epididymis in the out-patient department of that institution. At the London Hospital, as Surgical Registrar, I have had the opportunity of seeing several cases, but the following figures taken from the register of that hospital (by kind permission of the Medical Council) will show the rarity of this form of tubercular disease. During the last ten years, 1896 to 1905 inclusive, 55,912 male patients have been admitted on the surgical side, and of these 158 were diagnosed as suffering from tubercular epididymo-orchitis. Of the 158 cases, 9 were children under twelve and 149 were patients over twelve. Dividing the 55,912 patients into those over and under twelve, there were 44,419 of the former and 11,493 of the latter. This will give the percentage of cases under twelve suffering from tuberculosis of the testis as ·07, whilst in those over twelve it is ·33. I do not think that this represents the full proportion of those that suffer from this manifestation of tubercle, for the disease might easily be overlooked in the routine examination of patients, but it does represent all those who have had symptoms sufficiently well marked to cause them to come up for treatment, and the slightest swelling or abnormality of these important organs is generally sufficient to bring the patients to hospital. Many cases also have been admitted as epididymo-orchitis, orchitis, and epididymitis, without specifying the cause of the inflammatory process, and doubtless some of those cases were examples of tuberculosis of the testis in which the specific characters of the disease were not sufficiently well marked to make a complete diagnosis. These remarks, however, apply to cases over and under twelve, and probably do not vitiate the conclusion that tuberculosis of the male generative organs is much more common after than before puberty. This conclusion is the one that would be expected, for it is well known that tuberculosis is most apt to occur in parts where growth or physiological function is active, as in the growing ends of bones, and however important the internal secretion of the testis may be during the early years of life, there is no evidence in the histology of the gland of activity, until the age of puberty is reached, and the organ prepares itself for what may be called its active sexual life.

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* Read before the Society for the Study of Disease in Children, March the 15th, 1907.

These *à priori* reasons were also borne out by the incidence of tuberculosis after puberty is reached. Of the 140 cases quoted above, not less than 115 cases occurred between the ages of 20 and 40 years, the period of life when the physiological activity of the testis is at its highest. Curling, in his 'Diseases of the Testes,' also states that the disease is rare before puberty.

In contra-distinction from tuberculosis in the adult epididymis, where the disease is usually secondary to diseases of the prostate and vesiculæ seminales (Fuller), the inflammation spreading along the vas to the testis, in children the epididymitis is usually primary, the bacilli being brought by the blood-stream or lymphatics. In the nine cases collected from the London Hospital records only one is stated to have been associated with disease of the vesicula, and this receptacle was found to be caseous at the autopsy. In those cases which I had the opportunity of examining myself the prostate and vesiculæ presented nothing abnormal, and this agrees with Mr. Jacobson's statement that the cord is seldom, and the vesicula seminalis and prostate very rarely, found attacked.

Dr. George Carpenter, whilst agreeing that the infection is generally through the blood stream, records a case where there was enlargement of the corresponding vesicula and thickening of the vas. In all cases a routine rectal examination should be made, as thickening in the vesicula or prostate may aid in the diagnosis of tuberculosis from the other causes of inflammation of the testes, such as syphilis or one of infectious fevers.

Jullien gives the left testicle as being more frequently affected than the right, and explains this as being due to the fact that after the age of two the left testicle hangs lower than the right, and is, therefore, more exposed to injury.

In my nine cases the disease was on the left in four, on the right in two, and in the other three both testicles were diseased, with the left the more affected, but there is no evidence to support the view of injury being a predisposing cause, for in only one of the nine was there any history of injury, and that occurred on the right side. I would rather attribute the more frequent occurrence on the left to some difference in the blood supply and venous return, merely calling attention to the well-known frequency of varicocele on the left side.

In only two of the cases was there any marked history of tuberculosis in the family: in one both the father and the mother suffered from phthisis, and in the other a brother died of tubercular meningitis and an aunt suffered from tubercular arthritis of the knee-joint. It was not, however, possible to obtain a family history in all cases, so that the percentage of cases with a well-marked history of tuberculosis is doubtless higher than is indicated.

McAdam Eccles, in his 'Jacksonian Essay on the Imperfectly Descended Testis,' mentions tuberculosis as one of the diseases from which an ectopic testis can suffer, but does not describe any case or give any reference to literature, nor can I find any case of tuberculosis in the undescended testis of infants.

Jacobson gives references to two cases, both of which are doubtful, and states that at present no instance of tubercular disease attacking a retained testis can be said to have been verified. This, as has been pointed out by other writers, may be associated with the fact that the majority of undescended testes are atrophic, and, therefore, have no physiological activity.

The average age of the nine cases is three years and two months, the oldest being ten years and the youngest six and a half weeks old. In respect to the last case, the child died from inanition one day after admission to the hospital, the only obvious disease being double tubercular epididymo-orchitis, and the swelling of the testicle was stated to have been present from birth.

Giraldés, quoted by Curling ('Diseases of the Testes,' p. 236), observed a case in a fœtus at full term. A similar case has been reported by Dreschfield.

Dufour quotes a case at eighteen months, and Prostat one at nine months, the disease having been present for four months.

In one of my cases the child was one year and seven months old, and the swelling was stated to have been noticed for sixteen months, so that inflammation of the testis in the youngest infant should always arouse a suspicion of tuberculosis.

The onset of the disease is generally painless and insidious, and the attention of the mother is usually first attracted by the presence of a firm nodule in the testicle, although in some cases the child is not brought for treatment until caseation has taken place, and the attention is drawn to a soft, red place in the scrotum. In two cases pain was the first symptom noticed, but of the other cases six were painless throughout, and the swelling was only slightly tender.

The length of time that the swelling had been noticed varied from sixteen months to four days, the average being four and a half months.

On examination, if seen in the early stage, the condition is very similar to that found in the adult. The epididymis is hard and inflamed, the globus major being most affected, but the body of the testis is usually also enlarged as the disease is not limited to the epididymis alone, the glandular structure of the testis being also affected.

According to Jullien, the testis is often found affected without the epididymis, but none of the nine cases collected showed this condition. In only two cases was the vas affected, and in one only was the vesicula enlarged. This agrees with the experience of other writers on the subject.

A small hydrocele containing clear, serous fluid was present in three of the cases, causing the scrotal swelling to be partially translucent, but in none of the five cases in which there was an opportunity of examining were there any tubercles on the serous lining of the tunica vaginalis. In two cases under twelve years old admitted into the London Hospital with tuberculosis of the tunica vaginalis the testes were not affected, but Jacobson records two cases of tubercular disease of the testis in which a patent processus vaginalis was studded with miliary tubercles as far up as it was possible to follow it.

Rectal examination, which should never be omitted, is usually negative, as stated above.

In all the cases, except one in which the organ was removed five weeks after the onset of the disease, caseation occurred, and the condition changed from a hard nodule in the epididymis to a soft, fluctuating swelling on the back and lower part of the scrotum, with red and adherent skin. If left alone the abscess bursts, leading to the formation of a sinus usually at the bottom of the scrotum, from which there is a constant, slight discharge of pus; later, the other organ becomes affected in a similar manner, and the same changes occur.

Hernia of a tubercular testis is certainly not common at the present time, but may occur in neglected cases. Curling, in his 'Diseases of the Testes,' describes two cases of hernia in chronic orchitis in children, which, looked at in the light of modern ideas, were probably examples of tuberculosis.

Diagnosis.—Besides the nine cases of tubercular epididymitis in the years 1896–1905, there were admitted into the London Hospital nine cases of inflammation of the testis in children under twelve due to other causes; of these two were definitely due to traumatism, three were doubtfully due to traumatism and cleared up with a few days' rest, one was associated with chronic nephritis, one was, perhaps, tubercular, and for the other no cause was assigned. All the cases were acute in onset and very painful, thus differentiating them from the chronic inflammation of tubercle, though perhaps some of the doubtful cases were examples of acute tuberculosis, a condition by no means uncommon in the adult. There were no undoubted cases of syphilitic orchitis in a child admitted into the hospital in these ten years, but this is perhaps accounted for by the fact that congenital syphilis is nearly always treated in the Out-patient Department.

It is often difficult or impossible to diagnose congenital syphilitic orchitis from tuberculosis of the testis (George Carpenter), but the following points may be of assistance :

Syphilitic orchitis is most common in the early months of life ; it is usually bilateral, although frequently unilateral ; the body is chiefly affected in the majority of cases, although gummata may occur in the epididymis. The vesiculæ and prostate are free but the vas may be thickened, and hydrocele is said to occur in a quarter of the cases. The chief points in the differential diagnosis are the presence of other signs of congenital syphilis and the response to treatment.

In those cases in which the body of the testis is chiefly attacked, it may be difficult to diagnose the disease from sarcoma.

This, according to the London Hospital figures, is rarer than tubercular disease, only three cases being admitted into the hospital in children under twelve during the years 1896–1905.

The diagnosis of sarcoma can usually be made by finding the body of the testicle rapidly increasing in size without pain and without softening. The growth soon spreads up the cord, and involvement of the lumbar glands occurs early ; in the three cases mentioned above, two were inoperable from enlargement of the lumbar glands on admission into the hospital, one three weeks, and the other eleven months after the swelling was noticed.

As regards the prognosis of the condition, the statistics of the London Hospital are not very satisfactory owing to the well-known difficulty of following up hospital cases. I have endeavoured to do so in every case, but out of the nine information could only be obtained of five, of whom two died in the hospital, one twenty-four hours after admission from marasmus, and the only lesion discoverable being tubercular epididymo-orchitis, and the other a few hours after removal of the testis. This latter case had also tuberculosis of the vesicula on the same side, of both lungs, and of the peritoneum. Of the three cases traced subsequently one was described as "well, but delicate," one year after removal of the diseased organ ; one, after the abscess had been scraped out, was soundly healed eight months after discharge, whilst a third died with a discharging sinus three months after being sent from the hospital.

Complications, or, rather, associated tubercular conditions, were present in three cases : in one there was tubercular adenitis of the neck, and in the other two, tubercular peritonitis was present with tuberculosis of the lungs in one of them. This association of tubercular peritonitis with tubercular disease of the testis has been noticed by writers on the subject (Edmund Owen, Jacobson, George Carpenter). It must not be confounded with tuberculosis of the tunica vaginalis, which is frequently associated with tubercular disease of the peritoneum, especially if the processus vaginalis is unclosed. So common is the latter connection that all cases of double hydrocele in children should lead to examination of the abdomen for evidence of the tubercular peritonitis.

Treatment.—In considering the treatment of this condition the effect of removal of the testicle on the growth and development of the patient must be borne in mind. That the presence of a testicle is essential to the proper mental, bodily, and sexual development of a boy is beyond doubt, and that one testicle is sufficient for this development seems equally certain. In cases of a single ectopic testis, if the gland be removed no ill-effects seem to follow, in spite of the fact that it is rare for the other gland to increase in size. That no ill-effects follow cannot, I think, be stated definitely, for the development of children is by no means uniform, and, taking a boy of sixteen who has had one testicle removed in infancy, it is impossible to say if he is as well developed mentally and physically as he would have been if he had had normal testicles. However, so slight is this want of development, if there be any, that for practical purposes " no serious inconvenience to the patient is to be feared so far as complete bodily growth is concerned " (McAdam Eccles). If, on the other hand, both testicles are removed, the outlook is entirely different. The child, on reaching the age of puberty, does not develop the male characteristics, the penis remains undeveloped, the pubic hairs do not grow, the voice does not break, and the prostate remains small. Muscular development may be good, but the limbs tend to be rounded and the subcutaneous fat is present in increased amount.

The methods of treatment that can be adopted for tubercular epididymo-orchitis are: (1) General hygienic treatment and increasing the opsonic index of the blood serum; (2) removal of the diseased tissue; (3) orchidectomy.

The first method may be tried if the case is seen early, but the general experience seems to be that caseation and sinus formation is common in spite of good hygiene, and certainly in the nine cases I have collected caseation occurred in every one of them, being present even in the case with only a five weeks' history and, clinically, showing no signs of breaking down. At the present time tuberculosis of the adult epididymis is being treated with some success by the opsonic method, and time will prove or disprove the value of this treatment. It may be tried in an early case in children and if the patient's parents are opposed to more radical methods of dealing with the diseased organ, but I know of no case in which it has been used.

No local treatment is likely to be of any avail and it is useless to strap the testicle.

If the disease progress in spite of this method of treatment, or if the case be first seen at a later stage when softening has already begun, I should advise orchidectomy rather than limited removal of the diseased part for the following reasons:

(*a*) The disease is rarely limited to the epididymis but involves also the body of the testis.

(*b*) The gland is so small that scraping, etc., is likely to destroy it completely, so that the final result is the same as if the testicle were removed, and the risk of recurrence and sinus formation is greater.

(*c*) Removal of the epididymis and, at the same time, saving the branch of the spermatic artery going to the testicle, is exceedingly difficult in the infant.

(*d*) That, as stated above, mental, sexual, and physical development is little, if at all, interfered with.

As has been stated before, the vesiculæ and the prostate are seldom affected; in these cases, therefore, orchidectomy holds out a fair hope of completely removing the disease, and even if these organs are already diseased orchidectomy should still be done to rid the child of one source of disease so that he can more easily cope with another focus.

In cases complicated by tubercular peritonitis the testis should be removed, as the prognosis of this disease is distinctly good at the present time.

When both glands are affected the question of treatment is more difficult, for, as shown above, the removal of both testes is disastrous to the well-being of the patient. In spite of this, Edmund Owen advises that if, after removal of one testis, the opposite gland be affected, it also should be removed ('Surgical Diseases of Children'). I think that this double orchidectomy should only be done after the most careful treatment of the diseased organ. If one testicle has already been removed and the other becomes affected, general hygiene and opsonic treatment should be tried. If, in spite of this, caseation occurs, the caseous focus should be scraped out with a sharp spoon or a portion of the epididymis resected, opsonic treatment being continued. Repeated scrapings may be necessary, and it is only when the disease steadily progresses that the testicle should be sacrificed, and then only after warning the parents of the inevitable result.

To sum up. If general hygienic and opsonic treatment do not rapidly improve a tubercular testis in a child the organ should be removed. If both testes are attacked, or if one has already been removed, orchidectomy should only be done as a last resort. The operation is quite simple, and as much of the vas as possible should be removed.

Name.	Side.	Age in years.	Duration.	Other lesions.	Treatment.	Ultimate result.
C. A—	Left	3	2 weeks	*Nil*	Orchidectomy	Healed
J. W—	Right	$2\frac{1}{2}$	2 months	Tubercular adenitis of neck	Abscess opened	,,
L. A—	Left	7	8 ,,	Tubercle of sac of tunica vaginalis	Orchidectomy	Lost
J. R—	,,	$3\frac{1}{2}$	3 weeks	—	,,	Death with sinus
L. K—	,,	3	?	—	,,	Lost
C. W—	Right	4	?	Tubercular peritonitis	*Nil*	,,
J. B—	Both	$6\frac{1}{2}$ weeks	Alleged congenital	—	,,	Death 24 hours after admission
H. M—	Left	10	1 month	—	Epididymis scraped	Lost
E. N—	,,	$1\frac{7}{12}$	16 months	—	Ditto	,,
W. C—	Right	$2\frac{1}{2}$	4 days	—	Abscess opened	,,
S. W—	Left	2	6 months	Tubercular peritonitis; tuberculosis, both lungs; tuberculosis, left vesicula seminalis	Orchidectomy	Death, few hours after orchidectomy

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THE REARING OF CHILDREN.*

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The rearing of children.—A sentence of four words, and yet how much of importance to the welfare of the young lies hidden in this simple announcement! How complex are the problems involved, how much there is to be said, and how much there is to be learned, and how short a space of time has been alloted to me to even briefly review all that it is necessary to tell you. And how important this subject is, not only to our child population, but to the national welfare, for are not our present children going to be our future men and women? It is on the correct understanding of such matters that England depends for her future prosperity and the maintenance of her position in the world.

For children to make a good start in life their infancy must be spared those digestive troubles which are so frequent in nurslings which, even if they do not destroy them, nevertheless undermine their constitutions, lower their vitality, and seriously handicap them in the battle of life. But not only is it necessary that an infant should be suitably fed, it should be suitably born. It should start with a strong constitution. Unfortunately a child cannot select its own parents; it has to put up with them. The influences on the offspring of parental alcoholism, of consumption, of a neurotic inheritance and of inherited peculiarities are very potent. Whether persons suffering from some of these infirmities should be allowed to marry is a difficult problem. Certain it is that the union of such people produces a debilitated offspring with unstable nervous systems. All these matters are very important, because if we are to rear healthy children we must start with a sound material on which to erect our superstructure—man.

And a word here will not be out of place in regard to the safe guarding of the maternal health during the pregnancy. It is recognised that certain disorders are transmitted to the unborn child, that poisons circulating in the maternal blood-vessels filter to the child's tissues, and that in consequence structural alterations are apt to arise in its organs. Nor is the state of the mother's health during her own childhood unimportant. A rickety infancy is apt to produce rickety deformities of the pelvis, which, narrowing the outlet, render labour not only difficult to the mother but dangerous to the child. Thus arises cerebral hæmorrhage in the young which produces paralytic and mental deformities.

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In a recent lecture at the Institute of Hygiene the subject of infant feeding was discussed at length, and the various makeshifts to take the place of the maternal functions were described.

In this lecture it is only necessary for me to briefly touch upon this subject, and to say that to popularise breast feeding, to inquire into and remedy the causes which prevent or hinder this natural maternal function, and to provide nourishment or pecuniary aid where necessary to nursing mothers, are the very best and the most direct ways to ensure a healthy and thriving infancy and to provide a suitable foundation for the proper carrying out of all those various operations which are comprised under the heading "The Rearing of Children." If you value your infant's health and happiness—and both in the first year chiefly reside in the stomach—avoid proprietary foods, the majority of which are the greatest curse to the infantile population of this country.

Assuming, then, that the infant starts with a good heredity, that it has without a hitch passed through the first twelve months of its life, how should it now be fed, how should it be clothed, and what general or special measures should be adopted to continue the good work thus begun and rear a healthy little animal sound in mind and limb?

During the second year cow's milk must be the child's staple article of food. And here I will invite your attention for a moment to say a word or two about the milk. Those of us who are accustomed to inspect cow-sheds and all the appliances and manual labour utilised for the production of the commercial article which goes by the name of milk, are well aware of the present unsatisfactory state of the milk industry. In place of a clean milk we are supplied with a dirt-contaminated fluid overcharged with microbes. The dilution of the liquid, and thereby reducing the nutritive value of its constituents, is a trivial offence in comparison with that of dirt contamination. While the Legislature takes cognisance of sins of commission in the shape of adulteration with water, the sins of omission in the form of allowing the children's food to become charged with bacterial poisons is not punishable.

Thus there are three distinct punishable offences recognised under the Sale of Food and Drugs Acts: the abstracting of cream; fraudulently increasing the bulk by the addition of water and other foreign matters; and adding injurious ingredients.

Unfortunately the public health authorities are not provided with sufficient powers to ensure cleanliness and to control the sins of omission, although it must be admitted that there would be less cause for complaint in this respect if the existing regulations were universally more stringently administered.

Nevertheless, this want of cleanliness is a very serious matter indeed for our child population. Howls of indignation rent the air when 'The Jungle' revealed to the world the horrors of an American packing-house, but it is difficult to arouse the public in regard to an equally scandalous condition of affairs in regard to our own dairy-farming operations and to obtain legislation for the better regulation and control of the milk trade and the conveyance of milk by rail.

Untold infant lives are sacrificed to the demon dirt, and the health and physique of innumerable others are seriously undermined.

And there is yet another and more important question, and that is the supply of tuberculous milk to the public. Cows are not, as they should be, periodically tested with tuberculin to ensure the absence of the tubercle bacillus. That the milk the milkman daily leaves at our doors is often tuberculous-germ laden is undoubted. Quite a large number of the milch cows in this country are tuberculous, and tuberculous milk can, and does, infect the infant with tuberculosis.

When selecting milk for feeding children it should be of *good quality, clean, unadulterated,* and *tubercle free.*

There are dairy farmers in this country that supply milk with all the before-mentioned attributes, and notably the Walker-Gordon dairy farm, which has its head-quarters at Sudbury, near Harrow. A visit paid to this establishment will not only prove a pleasurable but an educational outing. Contrast this well-appointed establishment with the average dairy farms throughout the country and it will then be realised how wanting in wholesomeness are the latter. Our medical officers of health and sanitary inspectors hold the keys to these sacred precincts. You may be allowed by them to peep inside, and if you do you will be quickly disenchanted—it will be clear to you how unclean the animals are and how filthy the men are in their milking and subsequent operations.

It is hardly worth while to bother about a lactometer to test the quality of the milk, though this, of course, can be done; it is better, if you have any suspicions in regard to the nutritive value of the article, to enlist the good offices of the sanitary inspector, who will then take samples.

A child, at the beginning of the second year, should be gradually accustomed to digesting undiluted cow's milk. At first it may be mixed with a little boiled water. During this period the motions should be watched, and if the stools contain undigested curds—the cheese of the milk—then further dilution should be practised. With a little care and patience the milk soon can be taken in its natural state.

The daily quantity of milk which should be given to a child as fluid, or in the making of farinaceous puddings, should be two pints. In addition to a cup of milk, it should be given bread and butter for its breakfast, and for bread there is nothing to equal stone-ground flower; it does not look so clean as the ordinary bread, but is ever so much more wholesome and nutritious.

For luncheon another cup of milk and a stale sponge cake. For its *dinner* a child requires a somewhat more elaborate meal. The diet may be varied, with one day beef tea, another gravy from the joint—not made gravies—and another the yolk of an egg lightly boiled. With the gravy, the beef tea or the egg, mix a little floury potato, or the tops of cauliflower or broccoli thoroughly cooked, or spinach or bread crumbs. And follow this course by a little custard or farinaceous pudding. *Tea* should be the same as breakfast, and for supper give a cup of milk and a rusk or a biscuit.

A child's diet should be varied, and it is well to ring the changes as much as possible so as to avoid sameness in the meals. Maize makes an excellent and nourishing porridge, and the wholesomeness of oatmeal flour must not be forgotten. Some children, however, cannot digest oatmeal, and with them it must not be pushed.

Natural oatmeal, which is far better than prepared oat foods, is very nutritious, being richer in phosphates and proteids than either wheat or barley. There is no objection to fruit and fruit-juice at this early age with the milk puddings, but the fruit must be well cooked and free from fibre and the juice destitute of skins and pips.

Children are often thirsty, and if they be so they should be given water to drink—not milk, this should be reserved for their meals—water filtered either through a Berkefeld or Pasteur-Chamberlain apparatus. If such a filter be not obtainable then boil the water. Although children may be allowed to drink in between meals they should never be fed at irregular hours. Meals should be served punctually at the appointed hours, and food is to be partaken of only at that time. A poor breakfast is not to be followed by a hearty lunch and children must not be allowed to be capricious. All overloading of the stomach is to be avoided, as this is a sure way to produce indigestion and its attendant evils.

Teeth are often a source of irritation at this age, and it does a child no harm to gnaw a chicken- or chop-bone—it looks undainty, it suggests the cannibal at his repast, but it is a good thing for the child for it hardens its gums and helps the teeth to pierce them. It is better not to allow him to drop it on the floor, where it will become quickly infected, and for the self-same reason all "comforters" are to be ruthlessly destroyed, as they are handy vehicles for carrying the dust of the floor to the child's interior.

By eighteen months he should be cutting the first temporary molar teeth and at this time further additions may be made to the ménu. Thus for his dinner he may have pea-, haricot-, lentil- or barley-soups, with potatoes and bread. Or a dessert-spoonful, increasing to a table-spoonful, of pounded chicken or turkey or freshly-killed game. And these should be varied by occasional fish dinners of either whiting or haddock, or plaice, turbot, or hallibut, or sole, all well pounded and free from bones.

When the child digests meat well and in small quantities then the pounding may be omitted, and it should be cut up very fine indeed. Next he may be given a piece of pounded, underdone, grilled mutton chop if the other meats be well digested, otherwise the diet is to be much the same as at twelve months of age. The milk may be thickened with a little cocoa for his breakfast and tea.

It is very important to superintend children's meals. Some children are inveterate food-bolters, while others contract the habit of dawdling. Both tricks are bad, the former especially so. Dawdling over food must not be confounded with loss of appetite. If there be an unexpected loss of appetite there may be something amiss to account for that, and this will be detected by a medical examination, and be set right by appropriate remedies. Children must not be allowed to become fanciful; they must be made to eat what is placed before them without a murmur. Many a fight has to be fought out to a finish at the nursery table; do not be alarmed if a bad-tempered child holds its breath with rage and goes blue in the face. Do not give into it because you fear it will have a fit. If you do relent more unpleasantness is in store for you, and it is bad for the child. Master it at the outset. And do not be alarmed if a child be periodically sick after certain wholesome articles of diet which do not happen to please its palate. That is another trick with neurotic children, and it should be nipped in the bud. If it be sick, start afresh and compel it to take once more the article it dislikes.

Do not encourage any freaks and fads about food. Little pitchers have long ears, and often remarks are overheard on the subject of diet which are not intended for baby brains, but which, nevertheless, make a strong impression on them, and takes the form of their becoming "picksome," faddy, and troublesome about their meals. A child has no business to have an aversion to any wholesome article of diet. If he has you may be sure it is the fault of the nurse or parent. Of course cases do arise where what is one man's meat is another man's poison, but they are quite exceptional, and should be verified and advised upon by the medical practitioner. One not uncommonly hears it stated by mothers that the child cannot take milk, but this assertion is readily disposed of by a short seclusion in hospital or a private nursing home. Milk is the staple diet for the young, and there is nothing to take its place. Meat should only be looked upon as supplemental to milk, and should only be administered in small quantities. It is a mistake to overdo it, and is injurious when taken in excess to some constitutions—the gouty and the eczematous. Children must not be encouraged to over-eat. The desire for the repetition of a helping because it is appetising must be discouraged, the wishing for it being only a greedy craving. Hunger should be appeased by all means, and if in such a case a piece of dry bread be offered the child will readily eat if still hungry. The enforcement of discipline at the nursery table is not only of educational value to the stomach, but is a very fine moral and social training for the child.

By two years all the teeth should have been cut and the child should be a sturdy specimen of humanity.

The dietary may be now somewhat amplified, both in regard to quantity and quality, and also be more varied. Suet puddings, batter puddings, stewed fruit, and a variety of green vegetables, asparagus, French beans, and young green peas can be ordered. Jam, marmalade, honey and golden syrup are quite wholesome in moderation, and so are plain cakes, Madeira and seed cakes, but currant and sultana cakes and plum puddings should never be given. Such articles of diet as tea, coffee, beer, spirits, pickles, fried and salted fish, dried and salted meats, cheese, sausages, new bread, pastry, unripe or unsound fruit, nuts, dried currants, raisins, plums, cherries, ham, pork, veal, and liver, are all unwholesome foods for young children.

Simple sweets may be allowed in small quantities as a reward for good conduct, but should never be offered as bribes. Children who are perpetually stuffing sweets and who are fed to repletion on a variety of good things at all times and at all seasons are a disgusting exhibition of parental incapacity and folly. This is a sure way to bring about disease. Bowel troubles with a swollen stomach, foul-smelling motions, nervous instability, and all those objectionable mental and bodily characteristics which denote the spoilt child arise from such indulgence. When a child is three years old fat bacon may be added to the dietary and may be given for breakfast now and again.

Fresh air.—To rear children properly not only is good food essential, but fresh air also and plenty of it. A child will not be healthy unless ample provision be made in this respect. The nursery should be at the top of the house, because there is more air and sunlight there than there is in the lower regions, and if it be possible there should be two nurseries—a night and day nursery. If children are to thrive they should have at least 1500 cubic feet of air per hour, that is, a space of 8 ft. × 8 ft. × 8 ft. for each child. This cubic area allows a complete change of air thrice hourly with an absence of draughts, but it is better to have a space for each child 10 ft. × 10 ft. × 10 ft., which gives twice that amount of fresh air per hour.

For ventilation combined with warmth there is nothing to equal the open, slow combustion grate of Pridgin Teale's design, which should be shielded by a suitable wire fire-guard so adjusted as to prevent accidents. And in the summer months the chimney is not to be stopped up or you will defeat a most important feature, that of ventilation. Gas stoves in the nursery are very injurious to health. Nor are the windows to be hermetically sealed for fear of draughts, as is the custom of some nurseries. See that the windows are large and kept well cleaned so as to admit plenty of sunlight, for sunlight is inimical to the propagation of disease germs. Don't bother about the rugs and furniture losing their colour from the bleaching effect of the sun, for all young things require to bask in the sunshine. Windows are made to open and they should be opened at the top for two or three inches, day and night, unless the rain be beating into the room. Another way to ventilate is to allow the bottom sash to rest on a board about six inches deep, which fits into the sash frame; this allows a free passage of the air between the bottom and top sash and above the children's heads. Whenever the occupants of the nursery are out for their daily exercise all the doors and windows should be thrown open. When ventilating rooms it is well to remember that air inlets should be away from all sources of atmospheric contamination such as the ventilating shafts of sewers, open heads of stack pipes and waste pipes, and any other openings or connections with the drains. For floor-covering a smooth linoleum is cleanly and durable. In old houses some covering is essential where the floor-boards do not properly meet, and where not only draughts come through the cracks, but the interstices become a store-house for filth of all sorts in spite of frequent scrubbing. Of course, if parquet or other jointless wood-flooring can be afforded well and good, so much the better. Carpets are never to be used; two or three woollen rugs which can be taken up and shaken out of doors are the only coverings that are required. The furniture should be free of angles and projections, otherwise accidents are likely to happen to little heads and limbs. It should be placed at the sides of the room, leaving the centre of the floor free for games. The drawers and cupboards require periodical inspection to prevent the accumulation of any scraps of food which might be left there by the children, and which, decomposing, would taint the atmosphere. For the night nursery use a cot with slip down sides, a wire woven mattress, a horsehair mattress, a pillow, mackintosh, sheets and blankets. Woollen rugs as additional coverings in the winter time are better than down quilts—these keep in the perspiration and make the bedding damp. In very cold weather a hot-water bottle may be added, if required. Plenty of air should circulate around the cot, and there should be neither valances nor curtains to prevent proper aeration. As in the day nursery so in the night there should be an open fire-place, and the windows should always be opened at the top or other efficient means of ventilation substituted. A suitable temperature to maintain is 60° to 65° F. and not less than 55° F. at night.

In the height of summer and in the depth of winter it will perhaps be difficult to maintain these levels, but by a fire in the grate in the winter, and the shading of blinds of the open windows from the full glare of the midday sun in the summer, the temperature can be maintained at a suitable level.

The walls should either be distempered, or painted and varnished, or be covered with a sanitary paper, which should also be varnished. The two latter wall-coverings give a smooth surface which allows of thorough cleanliness. The ceilings should be distempered, or papered with a sanitary paper and varnished. The angles and corners of rooms are dust and dirt traps, and should be avoided by substituting rounded junctions for those at present in vogue. These only add slightly to the cost of the nursery when it is being built, and such an arrangement always should be specified when rebuilding. Skirting boards are most unhealthy; they harbour dust and filth in old property, and they are a happy hunting-ground for vermin and rodents. So to picture rails—these also should be done away with, for they collect dust. Pictures in frames are of an educational value and of use if they are kept clean, but the great objection to their inclusion in nursery furniture is that they are apt to become dust receptacles if they do not receive that care and attention from the housemaid which is necessary. Brightness and cheerfulness should be the prevailing tone of the nursery.

Lighting.—For lighting the nursery there is no illuminant equal to the electric light. It is both cleanly and wholesome. Gas is not advised, and if it be used there should be a means of conducting its fumes from the room by a flue. Gas, when burning, gives off carbonic acid gas, sulphur dioxide, and sometimes carbon monoxide, and one burner will do as much harm to the atmosphere by contamination as two adult persons. Candles are better than gas, though two candles produce nearly as much carbonic acid gas as two adults. If it be necessary to burn a light at night, then a night-light can be used, but it is better to accustom a child to sleep without a light. If there is one practice more objectionable than another it is that of children and adults occupying the same bedchamber. The exhalations from the lungs of adults are very poisonous, and such a custom produces in children anæmia, lassitude, and a general feeling of malaise—just that state of body in which a child would be likely to contract any infectious disease that may happen to be in its neighbourhood.

Sanitary appliances.—If it be possible to arrange it the sanitary appliances should be on the same floor as the nurseries, situated as far as convenient from them. The w.c. and bath-room should never adjoin the nursery; there should be either a room or passage between the sanitary apartments and the nurseries. The sanitary fittings should be of an high order, and examinations of these should be periodically made and their condition reported on. Never forget that sanitary appliances may be perfect, but their users may by their dirty habits render them unhealthy to the occupants. Closet pans should be kept scrupulously clean. Pedestal washdown or syphonic water-closet with a good water supply should be chosen. The traps are those portions of the fittings below the water level in the closet pan, and these frequently become foul through inattention. They, like the pans, must be kept clean, and if they do become foul spirits of salts, applied with a flannel on a piece of stick, will readily cleanse them. There should be a lead tray or earthenware drip-sole beneath the closet, and water or contaminations of any kind should never be allowed to remain on these. The floor should be tiled or be in mosaic, or covered with linoleum. Closets are too high and too large for small children. A "relief" seat should be used for the latter drawback, and for the former a movable step should be provided for placing in front of the closet. It is very necessary for children when at stool to have their feet resting on the floor so that they may obtain a purchase for their expulsive efforts. If they are accustomed to be seated with their legs dangling constipation is apt to arise. Another important way to prevent constipation is to see that every child has a daily action of its bowels after breakfast. For ventilation of the closet there should be a direct communication with the external air, either through a Tobin tube, with a Sheringham valve, or a Boyle apparatus, with a similar ventilating valve. The apartment also should be light and airy. The bath should be of enamelled iron, or of stoneware, the latter being the better of the two but much more expensive. It should be freely accessible from all parts, be without a casing, and it should rest on a lead tray. The fittings should be efficiently trapped. The bath is nearly always placed at the side of the room to prevent loss of space, but the ideal situation is in or nearer the centre of the apartment, where it can be approached from all sides. There should be a hot-water rail for keeping the towels dry, and this also is a useful appliance in the winter time, for it takes the place of a coil. Lavatory basins of glazed earthenware in the bathroom are an advantage. They must be properly trapped and not cased in. It is disadvantageous to have the bathroom and closet combined. The floor of the bathroom should be covered with linoleum, without joints, or be of the same materials as those recommended for the closets. There should be a cork mat for the children to step on. The walls are best tiled, but, failing that, paper designed to represent tiles and varnished will do, or they may be covered with crystalite or opalite, preparations made up of small glass slabs. The ceiling should be distempered. There should be plenty of air and light in the room. Evacuations and soiled diapers should not be kept in the nursery; they should be removed at once to the closet and dealt with there.

Sleep.—Sleep is the most important feature of child life. Training to sleep should commence at birth, and the infant should be placed in its cot immediately after feeding, without rocking. It must not sleep at the breast, or with the teat in its mouth, and on no account must children be allowed to indulge in thumb-sucking, or sucking comforters, for if they do they will soon decline to sleep without these artificial aids to slumber. Such habits bring about prominnet front teeth and overcrowding of the teeth in after life. If an infant does not sleep naturally its napkins are wet and require changing, or its clothes are moist with perspiration and are uncomfortable. If artificially fed it probably has stomach-ache, and if breast fed it is often hungry. The long sleep of infants should take place between 11 p.m. and 5 a.m. so as to give the mother or nurse a good night's rest. At the fifth month this time may be extended from 10 p.m. to 7 a.m. Regularity of sleep for the young is as important as regularity of meals. In winter the children should be put to bed at 6 o'clock, and in summer at 7 o'clock, and they should sleep the night through, being dressed at 7 o'clock the following morning in winter, and at 6 o'clock in summer. No matter what happens when bedtime arrives to bed they must go; neither coaxing nor entreaty should be listened to. The child who is allowed to keep up night after night until 9 o'clock or even longer quickly flags in health and becomes irritable, peevish and anæmic, a nuisance to himself and to others.

Encourage a good romp before bedtime as a matter of routine; sleeping then readily follows a fitting climax to a well-spent and happy day. A child should always be accustomed to a daily rest for an hour or two before the midday meal. He should lie dressed on his bed with the blinds drawn, and secure from external interruptions. He can with benefit to his general health be trained to take his siesta until he is five or six years old. If a daily rest be not taken by the afternoon he becomes peevish, cross, and untractable, and when the time for bed arrives he is not in a fit state for passive slumber. A child should be accustomed to sleep alternately on either side and on the back. With young children it is well to take them up once during the night to pass water, and all children should be accustomed to relieve their bladders immediately on rising. Pôts de chambre are best removed from sleeping compartments.

Exercise.—To be healthy and enjoy a vigorous childhood, exercise is all important, and be it fine or wet the daily walk must not be omitted. East winds and north-easterly winds are cold and biting, but bracing, and there is no objection to a healthy child taking a daily constitutional in spite of the trend of the weathercock. Of course, there are poor specimens of children wanting in vitality from hereditary influences who are so coddled and spoilt and enervated by their fond and foolish parents, and who are so wanting in physique that a breath of cold air will give them a cold in the head or bronchitis, but to a healthy and vigorous child a cold snap acts as a tonic. So, too, with regard to rain or snow. If a child be properly clothed and shod a trot out of doors in the teeth of the elements will do it good, and there is no chance of contracting a chill providing that wet clothes and damp boots are removed on arrival at home. But although I advocate this treatment for healthy children the weaklings require less robust measures. And it is in their case advisable to temper the wind to the shorn lamb and not to be too Spartan in our methods. On the other hand, beware of coddling—a vice of a different order.

All children should be out in the fresh air before and after luncheon, and they should walk to and from their playing grounds, where they should be encouraged to play games which will develop their chests, improve their winds, and make their muscles and sinews hard and elastic. Skipping, running, jumping, football, pony and donkey riding, or other amusements which require increased muscular exertion, greater rapidity of breathing, more rapid action of the heart, and more aeration of the blood than is required for walking are to be encouraged. Infants in arms during the summer months, if the weather be fine, can be taken out of doors a few days after birth, and in the winter time at the end of the first month. They should be carried in the nurse's arms, first on one arm and then on the other, change of position being desirable. When they become too heavy for the nurse a well-appointed baby carriage should be selected of sufficient size to allow the infant to lie full length in it. Avoid those wretched, collapsible contrivances on wheels in which the infants sit bolt upright tied in their places by a shawl. They should be out in the fresh air morning and afternoon, and if the weather be cold a hot-water bottle should be placed in the vehicle. When the child can sit up of its own accord it may be allowed to do so, but not until then. If it be in good health it will sleep the greater part of the day. Infants in arms require daily exercise of their limbs and bodies to keep in good health. Indeed, if they be fit and well, they will take exercise as a matter of course. All infants should be encouraged to kick their legs and arms and move their bodies. Remove the infant's diaper and put him upon a blanket or elsewhere where he will be warm and out of harm's way, and by playing with him he will readily be induced to go through his little performance. Even crying has its uses and should not be discouraged, for this, too, exercises the chest and abdominal muscles, fills the lungs full of air, sends the blood coursing through the blood-vessels to their finest ramifications, where the oxygen-laden blood-corpuscles part with their air-robbed burdens to the growing tissues. When the time arrives for walking the infant will readily try to master the mysteries of the upright position of its own accord, aided by articles of furniture. You may assist him in his endeavours, but it is not wise to make a child walk because you think the right time has arrived for him to acquire that accomplishment. If he be late in learning to walk, or, if having attempted to walk, he later abandon his efforts, there is probably some physical cause underlying the inability in the shape of commencing rickets. If he be rickety then it is absurd to try and force him—his bones are soft, the muscles are flabby, and the ligaments are weak. If the child be not now medically examined, bandy legs, knock knees, weak muscles raising a suspicion of infantile paralysis, weak ankles, flat feet, and curvatures of the spine are very apt to follow.

Children should be prevented from adopting faulty positions at their play, at their exercises, or in their beds. If girls are learning to ride side-saddles they should be placed first on one side of the pony and then on the other. Be they bowling hoops, or playing with bat and ball, they should be taught to be ambidextrous—to use both hands with equal facility. Most of us are right-handed, but there is no reason why we should not use both hands. In fact there are considerable advantages in being taught to use both hands with equal facility.

Clothing.—How should children be clothed? The object of clothing is to protect the individual from the inclemency of the weather, and to keep the skin at an equable temperature, so that the internal organs be not subjected to undue stress by reason of the flooding of their tissues in response to the cutaneous depletion of the blood-vessels by atmospheric changes. Clothing should not constrict the limbs and so impede the flow of the blood to and from the extremities, nor should it be so tight that it interferes with their movements. The chest and abdomen also require free play for respiration and circulation. The only parts of the body that should be accustomed to exposure are the head and face and the hands, bare necks, bare arms, bare knees and legs, and bare feet even in the summer time are undesirable. When dressing infants the binder should not be tightly strapped about the trunk, as it then impedes the movements of circulation and respiration. All their clothing should be loose and free. For the first few weeks of life a plain flannel binder should be used; later on a knitted one with shoulder straps should be substituted. The chest should be covered with a woollen garment cut high in the neck and long in the sleeves, and the petticoat should be supported from the shoulders by straps and not be kept up by girths. At night a light flannel night-dress should be worn. Do not overload the child with clothes; restless nights will be the result if you do. Flannellette should never be used; it is made of cotton;

there is not a hair of wool in its composition, and it is highly inflammable.

For the legs use warm woollen stockings reaching to the knee which should be fastened by suspenders and not by garters. For the body use a lightly fitting woollen combination garment to reach from the neck to below the knees.

Next, for boys, a flannel or a linen shirt according to the time of the year, an overall, a loosely fitting tunic with knickers or a Norfolk jacket with knickers. For girls the flannel petticoats should be supported from the shoulders and not hang from the waist. Some children's skins are so delicate that they cannot tolerate flannel; for these, linen or Anglo-Indian gauze underclothing should be substituted and flannel worn over them. Stockings should not be too pointed at the toes, but loose and square cut. On the other hand they should not be too long and sloppy, or they will take up too much room in the shoe. Free play to the toes is a necessity.

Shoes.—Be most particular about the children's shoes. Mothers should periodically inspect the foot wear. The inside of the foot and the inside of the big toe are designed by nature to continue in one straight line. The shoe should be fashioned so as not to interfere with this anatomical arrangement. Pointed shoes crowd the toes together, and distort the big toes and produce bunions later on in life. Hammer-toes, or toes that stand up away from the others in those who have that tendency, take origin in ill-fitting shoes. The child should be placed upright on a piece of paper, and as he stands with his full weight upon his feet they should be outlined in pencil. The shape thus obtained will show how the shoe should be moulded. For young and healthy children shoes should be worn and not boots. Boots are only to be used if specially ordered by the doctor. If a child's ankles be weak, or if his feet are becoming flat, as happens in some weakly children, then it may be necessary to order appropriate foot wear for the correction of these deformities. Pay special attention to the soles and heels of children's shoes; if the shoes be quickly worn to one side at the soles and heels the child has weak ankles, and should see a doctor. Never allow a shoe to be worn that is too short. Acquire a habit of pinching the toes of the shoes so as to assure yourself that there is plenty of room between the end of the great toe and the top of the shoe.

Shoes that are too short will also produce hammer-toes and distortion of the big toes. For the uppers select some soft material, and if the child suffers from cold feet cork soles should be worn which may be fitted inside the shoe. For older children Oxford shoes should be selected in place of those with straps over the instep. Another important point is to pay attention to the toe-nails. Toe-nails should be cut square and not rounded at the sides, and quite as much attention should be paid to these as to the finger-nails. Children should be clad according to the state of the weather, not according to the time of the year. Fashions should not be allowed to dictate the choice of clothing; health should be the sole consideration. It should be the aim of parents to select the happy medium, neither to dress them as some are dressed, with multitudinous wraps, a superabundance of underclothing—a perambulating and perspiring clothes peg—nor, on the other hand, to try and harden their offspring by sending them out into the cold with blue fingers, cyanosed ears, and a general pinched and woe-begone expression that would wring tears from an Oliver Twist.

For night wear for children a flannel sleeping vest is the best. If the child lies uncovered a loose woollen flannel combination suit with feet may be used.

Bathing.—For the first few months of life the temperature of the bath should be 98° F. The bath should be of short duration and the body quickly dried. At the sixth month the temperature should be reduced to 95° F., and by the end of the first year to 90° F. Robust children should, on finishing their tubs, be sponged with water at 65° F., or this should be poured over them from a jug from head to foot as they stand in their tubs. There are some children who cannot tolerate cold sponging—sometimes even tub bathing. There is no reaction, their faces become pale, the eyes and lips blue, and the extremities cold and cyanosed. For such the tub or the douche must be abandoned, a piece-meal washing on a blanket being substituted. The tub bath is best given in the evening, when going to bed, the douche is best taken in the morning. Fill the bath with cold water first, then add the hot, and when it is well mixed take the temperature of the water with a bath thermometer. Five minutes is quite long enough for a bath, and the child should be thoroughly washed with soap and flannel from head to foot during that time. Swimming paper boats and other infantile aquatic sports should not be encouraged.

Skin.—The infant's skin is delicate, and requires great care. Soda should never be used to wash their diapers, and these must be immediately removed as soon as they have become soiled, otherwise the buttocks will be excoriated. Be cleanly, but do not use strong soaps or violent rubbing. After bathing and well drying, the folds of the skin should be dusted with an antiseptic dusting powder. In males circumcision may be necessary during the first few weeks of life. If the child has any irritation or difficulty in passing water the doctor should be consulted. If the skin be long, and the orifice be small, circumcision should be done at once. Secretions and adhesions about the part must be removed so as to get rid of all chances of local and reflex irritations taking origin there. But while the bath need be only a daily occurrence the teeth must be cleansed with a soft tooth-brush night and morning. A child must never be allowed to go to sleep with food adhering to his teeth, as acid secretions are produced which eat into the enamel, then the teeth decay. The child should be taken to the dentist at least every six months, and if there be carious teeth these should either be stopped or removed for the following reasons:

(1) With bad teeth the child cannot masticate his food, he becomes a food-bolter, and then dyspepsia follows.

(2) Decayed teeth bar the way for the eruption of the permanent set.

(3) Decayed teeth are apt to infect the oncoming permanent teeth.

He should therefore be taught that it is as necessary to clean his teeth as it is to wash his face and his hands.

Amusements.—Next a few words in regard to amusements. The golden rule is never to select an indoor game if it is possible to obtain an outdoor one. The nursery or indoors are only admissible when the weather is prohibitive of outdoor pursuits. In the selection of amusements these must be left to the child, and its tastes should be respected, though a nurse may well suggest a change in the game if there be a valid reason for it. If the day be wet the nursery is the place for romping, and its cupboards should contain a variety of toys suited to the ages and sex of the occupants. But among these toys there is no excuse for the inclusion of dangerous implements—bows and arrows, toy cannons or guns that can throw a pellet or a stick with violence sufficient to do an injury. Swords, and chisels, and hammers, and saws, and whips are not suited to such an environment, nor should poisonous paints be included in the list. There are so many harmless toys to select from by means of which the youngsters can exercise their lungs and muscles. There are clay modelling bricks, puzzles, soldiers, and so on, by which they can profitably work their brains, and for those who are of a mechanical turn of mind, the number of ingenious and instructive toys is legion. But, after all, it is doubtful whether the pampered minority are happier than the rustic child making mud pies and playing with sticks of firewood in the curtilage of his cottage. To some children of a studious turn of mind it is a delight to pore over picture books and take their pleasures in a pictorial environment of fairies and other flights of fancy of their elders, but these delights must not be indulged in to the exclusion of physical exercises; the use of little muscles and the pumping of oxygen to the growing tissues is a necessary part of the child's life-history and must be attended to. The studious child, by judicious management, must be induced to romp about and take his exercise with the rest. When out of doors, running, and jumping, and skipping, and shouting—never mind the noise, it exercises their lungs—and all games which require the associated action of the hand and eye, such as playing at ball, rounders, batting and bowling, are those which should be encouraged in both sexes. A girl may have her dolls and dolls' houses indoors, and often a boy likes dolls too, but to ordain that a girl is to amuse herself with a skipping rope to the exclusion of other games is absurd. Skipping is the finest exercise for boys as well as girls, and girls have no more right to the monopoly of the skipping-rope than the boys have to the monopoly of all the other games. They should share and share alike—climb trees, slide down hay stacks, or other harmless antics that their animal spirits suggest to them. There is no harm in a boy or a girl being mischievous so long as it is mischief of the right sort; it is quite natural that they should be so. When mischief takes the form of teasing and being unkind to other children, and of cruelty to the lower animals and other sensitive things, these traits should be nipped in the bud. Don't worry a child at play about its clothes; clothes during play are sure to be crumpled, and a cotton smock or overall will protect his clothing and make him feel that he is armour-plated against a scolding. And don't be always nagging—this will spoil his temper and do no good.

Nurse.—The selection of a suitable nurse is a very important step. The mother ought to be the head of her nursery; that is her duty, and the care and training of young children should not be left to hirelings, as is now the fashion among women of the upper classes, because these mothers find it more entertaining to devote their time to their social engagements rather than to the upbringing of their offspring. The nurse should be healthy and with good sound teeth—there can be no question about the first requirement. Tuberculous glands, or any suspicion of a weak chest, or discharges from the nose or ears, are inadmissible in the nursery. In addition to being healthy, she ought to be from 25 to 30 years of age, and of good complexion and physique, steady, truthful, and gentle, and certainly of a sunny temper, and take a bath at least once a week. A rough, bad-tempered nurse frightens the timid child and tends to make him a little sneak, and on the other hand she is apt to brutalise the hardy youngster. Not only should she be good-tempered, she should be intelligent and patient, with a decided fondness for children. If she be worthy the name of a nurse she will be sufficiently light-hearted to take part in all their romps and gambols, and sufficiently quick and discerning to study her charges' natures, to encourage all their good points and to curb all their bad traits, to deftly handle all the little disputes which are apt to arise among the children and which require a just judgment, for the child resents an unjust ruling. She must be truthful, cleanly, and methodical, so that her charges are by imitation taught through her the virtues of truthfulness, cleanliness, orderliness, punctuality and obedience. She has to preside over their meals, to see that the food arrives from the kitchen in proper condition, and that they partake of their meals in a well-mannered way. The instruction in correct table manners is no unimportant duty of the nurse. She must be quick to observe errors of mastication, the bolting of food, and over-eating. The acquirement of nice habits and manners of self-control and many other attributes of polite society should be learned in the nursery. And children, like their elders, are not always healthy, and she must be sufficiently observant to watch over and report any falling off in their appetites, or flagging of their energies, or of any other abnormal things about them. Not only is the post a very responsible one, but is one which requires great tact and a very level head. To be always with children is very trying to the nervous system, and to get the full value out of any nurse it is necessary for her to have regular off-duty periods. To be with the same children day in and day out, from week to week, and month to month, without a proper change is hard labour for the nurse. Prolonged and trying labour such as this saps her vitality, and reduces her value as a trainer of the young, for to be a trainer she must be an observer, and to be an observer her perception must be quick, and her judgment ready, which will not be the case if she be overworked, and she will be overworked under such trying conditions if she takes her responsibilities too seriously.

Education.—While the infant is yet in the womb, heredity—the heredity of the ages and the heredity of the parents—and also the maternal health and habits are playing their allotted parts on its developing tissues. During the first year of life the brain grows rapidly to as much as three times its bulk. There is a vast difference, mentally, between the infant in arms and the child at two years: one is a little animal endowed with certain instinctive movements, such as sucking and grasping, the other is an intelligent being, with a distinct personality. During this period of growth the various nerve centres have been opened up and improved by the external physical influences which have been brought to bear upon them through the special sense organs. The influence also of a strong personality by the mother and the nurse has had no small share in this transformation. This has also been brought about partly by imitation, and partly by the domination of the superior intellect which has controlled these operations. During this time many good, and perhaps many bad, habits have been acquired in the nursery, by the influence of this personality and by training. True, there are certain inherited characteristics, some of which, perhaps, have had to be curbed, but early training here counts for much in fostering and bringing forward the good points and in eradicating the bad. Baldwin says the infant responds to suggestions of personality as early as the second month. It distinguishes its mother's or nurse's touch in the dark, it learns characteristic methods of holding, taking up, and patting, and adapts itself to the personal varieties. This is a very different thing from a child's behaviour towards things which are not persons. Habits are readily acquired during the earliest age. Thus, as early as three months old an infant can be trained to evacuate the bowels when placed upon the chamber, and the nurse should accustom him to this proceeding by placing him there immediately after feeding. The bladder is trained in precisely the same way, and by the first year the child will learn to ask itself. An intelligent nurse can train her charge to dispense with its napkins during the day. To train an infant to hold its water during the night it must not be fed during the night. Given a bad nurse or an indifferent mother, and bad habits are as readily acquired as the good. The infant is restless and sleepless, he keeps everybody awake with his nightly pandemonium. He requires rocking or tramping about the room. To soothe him and keep him quiet he is surfeited with food, with the usual result—dyspepsia, colic, gaseous eructations, and a physical basis for his discontent is superadded to his nervous irritability. He exercises no control over his evacuations, he passes everything into his diapers, and when he is not sucking his bottle he is busy with his thumb or a dummy teat, and the whole household are kept on the tiptoe of excitement in response to his lamentations.

When consciousness has become awakened the child is made up of two selves: (1) The result of heredity and force of habit; (2) The result of accommodation. If the heredity be good and the early training be also good then the child is tractable, but if the converse has happened he is difficult to manage. It is at this stage of his existence that the personality of the mother or nurse becomes a powerful factor in his mental training. The child is an imitative animal, and if the personality be a strong one he is taught habits of self-control and self-negation, to keep in subjection his impulse and his desires, which will tend either to eradicate, or keep in abeyance, or accentuate his good and bad hereditary tendencies as the case may be. That heredity is a powerful factor in the formation of the man there can be no question, but that early training is also a potent influence in every individual's future cannot be gainsaid. There are two classes of parents that are not fit to rear children, viz.: those that devote their lives to cards and sport, and a round of social festivities to the exclusion of their parental duties; and those that are foolish and over indulgent, and will not permit their children to live natural lives either physically or mentally. Usually the latter are themselves neurotic, and they come of a neurotic stock. If I were asked to advise as to the best way to produce a neurotic child I should select for it doting parents waiting on it hand and foot. The child readily recognises the position, it realises that it is the hub of the household, that its wish is law, that when it speaks let no dog bark. Modern civilisation has much to answer for in the production of the neurotic child. And neurotic children are ever on the increase. In a state of nature the weakling, the neurotic, and the degenerate disappear, but in civilised communities they are fostered and cared for, they grow up, marry and bring into being children less able than they to battle with the world, and cursed with still more unstable nervous systems; possibly they may give birth to even worse types—epileptics, criminals, and other degenerates. For normal healthy development of the higher nerve centres there must be quite an absence of all excitement and undue stimulation. Parents and nurses must realise that the child—the nervous child particularly—must not be unduly excited. He must not be encouraged when excitable to perform a series of antics, to indulge in a host of monkey tricks accompanied by shrieks of delight, to thoroughly lose his reason for the time being to the great amusement and pleasure of less admiring elders, who do not realise the danger to the child of these nerve storms. Such nerve outbursts always end in depression—a fit of crying, a restless night, and the seeds are being sown of a most undesirable crop of future nervous fruit. *Nervous hygiene* for the coming race requires more careful study in the future if one half of the population is not to be doomed to nurse and cherish the other half, as has been predicted by various writers.

It must be brought home to the masses that the early training of the child is all important, that the child's nervous system is as clay in the hands of the potter, and that many of life's failures owe their want of success, not so much to themselves or to their heredity, as to their unfortunate early environment and to the failure of their parents and others to do their duty by them.

On the other hand, many of life's successes are fashioned in the nursery owing to maternal strivings faithfully and well performed.

The Society for the Study of Disease in Children.

A MEETING of this Society was held at 11, Chandos Street, on Friday, April the 19th, Dr. C. CHAPMAN in the chair.

Two Cases of Glandular Fever was the subject of a paper read by Dr. CHAPMAN. The first was in a lady, aged 30 years. After exposure she got stiffness of the neck and enlargement of the glands beneath the sterno-mastoid muscles. There were no lesions to account for the adenitis. The temperature was 101° F., and rose to 104° F. There was slight epistaxis on the fifth day, and three days later the fever disappeared and convalescence was established. On the fifth day of her illness her little girl, aged 3½ years, developed a similar attack.

Dr. PORTER PARKINSON did not consider this disease a morbid entity, but rather an expression of an infection which might be due to many different bacteriological causes. He suggested a thorough examination of the nose and throat.

Dr. CAUTLEY considered the term a convenient one, though he agreed with the last speaker.

A Psychological Case was shown by Dr. T. R. WHIPHAM. A girl, aged 8 years, who had a strong alcoholic history, and had been frightened by her father threatening to murder her and trying to commit suicide. Seven months ago, while at a school, she was noticed to "stutter," and rapidly developed a stridor and bilateral deafness. When first seen, she had in addition ptosis of both eyelids, which rapidly passed off, and also a transient loss of sensation. The forehead was immobile, and the right eye was not closed as tightly as the left. There was a doubtful loss of power on one side of the face. The tongue appeared atrophied, and was protruded slightly to the left. Intellectually she was very bright, but was a super-sensitive, reserved child, who talked of religion, marriage, and maternity.

The general condition had not altered for the past four and a half months. The diagnosis was either neurosis or disseminated sclerosis.

Dr. Poynton recommended that the child should continue to attend school, where special attention could be given to controlling her tendencies. He would not apply any further mercurial treatment. He did not consider the prognosis of the deafness was at all good.

Adherent Pericardium and Morbus Cordis was shown by Dr. T. R. Whipham, in a girl, aged 11 years. There was a history of rheumatism in the family, and the patient had had rheumatic fever eighteen months previously, and pericarditis in August last. The heart was considerably enlarged, and at the apex there were systolic and diastolic murmurs, the latter being audible over only a limited area. In the aortic region the sounds could scarcely be heard. This had been the case since the child had been under observation. The diastolic murmur had varied from time to time, and at one period had temporarily disappeared. Systolic retraction of the intercostal space in the region of the left nipple was visible.

A Case of Double-retained Testis was shown by Dr. J. H. Tallent. The child was aged 2½ years, and both scrotal sacs were empty. When six weeks old a swelling appeared in the right groin, caused great pain, but reduced itself in about five minutes; this was an ordinary inguinal hernia, and was treated by a truss. No sign of the testicles was ever seen.

A Case of Encephalitis Superior causing Hemiplegia and Aphasia was shown by Dr. Porter Parkinson. The child, aged 2 years and 4 months, had been suddenly seized with a convulsion and high fever. She was treated for pneumonia. A week later it was noticed that the arms and the right leg were paralysed and the mouth was drawn to the left, and she squinted. On admission into the hospital there was paralysis of the right arm and leg and the right side of the face, with increased reflexes. She was quite conscious and intelligent, but could not reply, except by an inarticulate noise, though previously she had been exceptionally talkative. During the following month there was some slight return of power in the limbs, but not in the face. The speech, however, began to return slowly, as she learnt it word by word from the other children. She is now able to walk a little, but the paralysed limbs are becoming rigid. The electrical reactions are normal, except for loss of all stimuli in the flexores longus and brevis digitorum of the right leg.

A Case of Addison's Disease was shown by Dr. Poynton. The patient, a girl, aged 9 years, had suffered for a year from lassitude, fainting, and vomiting; there was then some dilatation of the heart. A month ago her face began to get darker in colour, and there was some pain in the abdomen. There was some bronzing of the skin of the face, neck, axillæ and groins, and lower part of the abdomen and back, also of the mucous membrane of the left cheek and soft palate. The blood-pressure was only 60 mm. The red corpuscles numbered over 6,000,000, and hæmoglobin 110 per cent. There was no sign of tubercular disease.

Dr. Parkes Weber confirmed the diagnosis, and related a case where the patient appeared well till shortly before death.

Dr. Sutherland thought the case was in such an early stage that absolute diagnosis was difficult; he thought it might be due to depression of the vaso-motor system, common at that age, and producing similar symptoms. He asked if there was albuminuria, which was common in such cases.

A Case of Multiple Abscesses was shown by Mr. DUNCAN FITZWILLIAMS. The infant was aged 9 months, and since Christmas has had a succession of abscesses on the head, body, and limbs. They were twenty-seven in number. There were no signs of syphilis.

A Syren Fœtus was also shown by Mr. FITZWILLIAMS which had a single lower extremity, containing a thick femur, below which were two bones partly separated at the upper end. The bones of the paddle-like foot were normal. The fœtus was probably of the eighth month.

A Cartilaginous Nasal Tumour was shown by Mr. JAFFREY. An infant, aged 6 months, with a cartilaginous tumour attached to the whole length of the left side of the septum of the nose. The tumour all but fills up the left side of the nose, and is seen just inside the anterior nares. It bleeds very readily on manipulation ; the child is otherwise quiet healthy.

A Case of Erythema Iris was shown by Mr. GEORGE PERNET. It was probably due to intestinal auto-intoxication.

Also **Erythema Papulatum Hæmorrhagicum** in a girl, aged 15 years, affecting the legs and forearms. She was cachectic looking and a vegetarian, having a natural distaste for meat.

* * *

A CONFERENCE on the subject of milk supply was held on Friday, April the 26th, in the Board Room of the Hospital for Sick Children, Great Ormond Street, under the presidency of Mr. ARTHUR LUCAS, Chairman of the Hospital, at which representatives from the following hospitals were present: Mr. Arthur Lucas, Dr. Still, Mr. Johnson (Secretary), Great Ormond Street ; Mr. Gibbs, Dr. Carpenter, Mr. Glenton Kerr (Secretary), North-Eastern ; Mr. Lucas, Dr. Coutts, Mr. Wilcox (Secretary), East London ; Dr. Carr, Mr. Evered (Secretary), Victoria ; Mr. Hoare, Mr. Staniland Smith (Secretary), Evelina ; Mr. Owen, Dr. Sutherland, Mr. Pearce (Secretary), Paddington Green ; Dr. Lister, Royal Waterloo ; Mr. Ramsay, F.R.C.S., Mr. Stanley Smith (Secretary), Alexandra ; Mr. Morris (Secretary), London Hospital.

The Conference, after discussion, passed the following resolutions, subject to the confirmation of the committees of the various hospitals interested :

RECOMMENDATIONS ADOPTED AT A CONFERENCE OF THE UNITED CHILDREN'S HOSPITALS OF LONDON.

I.—The milk shall be pure, genuine, and with all its cream as yielded by the cow, and absolutely free from any and every kind of adulteration, including preservatives. It shall be of such quality as will produce at least 3·50 per cent. of butter-fat.

II.—It shall be supplied from a farm or farms whose name or names and locality are notified to the hospital.

III.—It shall be permissible for an authorised representative of the hospital to inspect such farm or farms at any reasonable time.

IV.—The cows supplying the milk shall be in a good state of health, and a veterinary surgeon shall give a certificate to that effect once a quarter.

V.—The milk shall be strained and refrigerated at the farm, and there canned and sealed.

VI.—The milk shall be delivered, sealed, at the hospital.

VII.—It shall not be "Pasteurised," or treated otherwise than as mentioned in Clause V, without the written sanction of the hospital authorities.

VIII.—It is advisable that the milk be tested bacteriologically and chemically once a week by the hospital.

IX.—That the name of the medical officer of health of the district in which a supplying farm is situated be furnished by the contractor, and that he be informed of the relations between the farm and the hospitals, and that he and the clerk of the Urban or Rural District Council be supplied by the Hospital for their information with a copy of these recommendations.

X.—This Conference invites the committees of the various hospitals interested to adopt the resolutions passed at this meeting.

Editorials.

THE LORD MAYOR OF LONDON'S SCHEME FOR CRIPPLED CHILDREN.

The term "crippled children" is a very comprehensive one and embraces a large variety of disorders, both mental and physical. We have in our midst a multitude of children who are crippled in mind and in body from congenital and acquired affections of the central and peripheral nervous systems, of the muscles, the bones, the joints, and elsewhere.

Sufferers from many of these conditions are fortunately already sufficiently well provided for by the special institutions devoted to the cure or alleviation of their infirmities, and these charitable bodies can well be left undisturbed to continue their beneficent ministrations.

The Lord Mayor for a long time has been actively interested in the necessities of suffering childhood—as a member of the Committee of Management of the Evelina Hospital for Sick Children and in other ways—and he has, therefore, obtained practical experience of hospital management. But his lordship cannot on that account be expected to see eye for eye with experts who devote their lives to the study of children's ailments and to the acquirement of knowledge as to how best to bring out what is good in the young, both physical and mental, so as to properly equip them for the battle of life.

Our criticisms, therefore, must not be taken as an indication of a captious spirit or as wanting in appreciation of his lordship's philanthropic efforts, and we hope that they will prove of assistance to him in the creation of a scheme which will prove of real value to those most interested, and also be of such a nature that it will be sympathetically received by a generous public.

It would appear from the Lord Mayor's utterances that not only has he not yet determined in his own mind as to what class of patients shall be embraced by his Fund, but that he is desirous of tapping every available source of expert knowledge to assist him in arriving at a conclusion, and we, therefore, without hesitation point out what we conceive to be the weak points of the philanthropic plans already announced.

One of the Fund's objects, as stated by his lordship, is the treatment of children suffering from tuberculosis of the bones, and he has specially mentioned those with discharging wounds requiring medical aid and nursing.

In our opinion there should be a strong dividing line between children who are affected with tuberculous discharges and those who are sound in that respect—what is appropriate treatment for one form of tuberculous complaint is undesirable for the other.

We think that those who are suffering from tuberculous sores and from tuberculous discharges should not be allowed to associate with those who are not so affected until their sores have healed or their discharges have stopped. We live in the hope that the Public Health Authorities will, in the near future, be empowered to better provide for the proper isolation of these patients, and for the disinfection of their excreta, so that the healthy may not run the risk of infection, as is undoubtedly the case at present.

Such children can only be suitably treated in a country or seaside hospital, with a floating branch as a useful adjunct, supplied with all modern requisites.

Should his lordship contemplate relieving this class in this way, we wish him every success—there is urgent need for such a scheme. And such a scheme could well be dovetailed into one of the existing children's hospitals—the North-Eastern Hospital for Children, for instance, which is making headway with its plan for a country branch. The surgical side of children's hospitals deals largely with tuberculous wounds, and the wisdom of performing operations on tuberculous joints and bones is daily becoming less apparent. The surgical and nursing skill at the command of these institutions are of the best, but they are sadly in need of the one thing that is necessary to a cure, and *that is fresh air, and plenty of it.* Such an alliance should prove economical in working, and would be financially sound.

We do not think such patients should be housed in bungalows in the country within easy access of London, even if the bungalows be periodically destroyed, as the Lord Mayor has suggested.

But we hold yet another objection to this bungalow scheme, with which we will deal presently. If the scheme is intended to include those who are, or have been, suffering from tuberculous diseases of the bones and joints and other parts, and who are constitutionally weak, then we think that it is not necessary to place these children in bungalows to provide them with what they most need—viz. an abundance of fresh air, day and night.

Such children do not require nurses to preside over them, nor do we consider that a hospital nurse is the ideal person to train young children—quite the reverse. The nurse's special training is not such as to fit her for such a responsibility.

Children should not be grouped in a hamlet of bungalows and deprived of that intercourse with the rest of the world, which is as necessary to the training of their minds as is food to the building up of their bodies.

All experts are agreed that the barrack system of treating children is the worst possible, and his lordship's scheme of bungalows is a minor evil of the same nature—not so unweildly, perhaps, but, nevertheless, just as objectionable.

Such children should be placed under the care of lay foster-mothers in homes capable of accommodating some eight or ten children, and scattered throughout the selected district. This permits and encourages free intercourse with healthy children, and prevents little sufferers, who are apt to be morbidly sensitive about their infirmities, from being ostracised and treated as lepers.

The State Children's Association has made a study of these matters, and it would be well for his lordship to avail himself of their special experience and expert knowledge in relation thereto. Medical supervision would be required to ensure that the principles of health were properly observed and that the rules were not disobeyed, in addition to that found necessary for the treatment of special cases. But the medical supervision should be rigorous, and should be presided over by a medical officer of repute in London, if it is to prove efficient, and it should not be left solely to local medical practitioners. The proper supervision of the lay foster-mothers is also of some importance.

For those children who are fourteen years of age and over, the provision of technical and other training to enable them to earn their living should also receive attention.

That tuberculous cripples should have been specially singled out for assistance is admirable, and we think that his lordship will find that the tuberculous cripples are sufficiently numerous and sufficiently important to engage his sole attention, although he has indicated that the relief of their infirmities is but a part of his scheme.

We hope, therefore, soon to be favoured with further and more matured details of the Fund, and, whatever form this scheme may take finally, we hope that it will prove a fitting and a lasting tribute to Sir W. Treloar's tenure of office as Lord Mayor of London, and that the good done by it will even exceed his philanthropic aspirations.

CONFERENCE ON MILK BY THE UNITED CHILDREN'S HOSPITALS OF LONDON.

By invitation of the Great Ormond Street Children's Hospital, representatives of the London children's hospitals met in their Board Room on April the 26th to discuss the milk supply of the children's hospitals. A note on this important and novel conference will be found in the current issue. We heartily welcome this action of the authorities of the Great Ormond Street Children's Hospital. Although we are not permitted to hail them as pioneers in this movement, nevertheless they have performed a great service by bringing together the children's hospitals.

The other children's hospitals of London have not been neglecting this very important matter—the milk supply of the hospital. On the contrary several of them have been for some years very much alive to the requirements of their patients and to the necessity for obtaining a *pure* milk. While recognising that purity should be their ideal, committees of management have been faced by the hard fact that the ideal means expenditure—increased cost of milk,—and that increasing the milk bill is likely to be followed by other financial disagreeables, notably the diminution of the annual grant by the Hospital Sunday Fund.

The Fund compares the cost of management of one children's hospital with another, and judges efficiency by expenditure per cot. Thus it has happened that committees of management have not been able to respond as heartily as they could have wished to the demands of their medical committees. This Conference should have the effect of strengthening their hands, and of putting a stop to the competition of prices. It should now be possible for all the London children's hospitals to obtain milk at the same cost, so that their milk bills will no longer form a barrier to the steady flow of charity. But some hospitals have not allowed themselves to be tethered in this way.

The Paddington Green Children's Hospital have for a long time recognised their duty to the children, and have, with a public spirit which is worthy of imitation, insisted upon the necessity for *pure* milk, and they have faced the question of increased cost unflinchingly. The Walker-Gordon Farm at Sudbury, from which their milk is obtained, cannot be approached in regard to its management by any establishment in the United Kingdom. It has been founded on the now well-known American Walker-Gordon system, and is replete with every modern requirement.

The North-Eastern Hospital for Children can fairly lay claim to being the pioneer in the pure milk movement. Its financial resources, however, were such that it could not command the services of the Walker-Gordon establishment, although negotiations with that object were entered into some three years or more ago. Its subsequent search for a *pure milk* at a cheaper price than that quoted by the Walker-Gordon farm was described by its medical delegate, Dr. Carpenter, at the Conference, and his experiences will bear repetition, and should be taken to heart. It reads more like a description of sewage collection than the handling of a food vital to nurslings and young children. He, along with the secretary of the hospital (Mr. Glenton Kerr), was cordially invited by one of the largest dairy corporations in London to inspect the farm from which it was proposed to supply the hospital with milk. The farm was situated within fifty miles of London. They found cows huddled together, some in ill-ventilated and dingy sheds, others in pitch-dark buildings with a foul atmosphere, all of them soiled with their own excrement and in a deplorably filthy condition, and with little, if any, bedding on the foul floors on which they stood and lay. One batch of dirty men, with dirty hands and coarse dirty aprons, was milking these cows in sheds which were plunged in Cimmerian darkness, due to an absence of light inlets. The environs of the cow-sheds were a sea of filth, in which some of the more lucky animals were taking their outing and sticking there with cow-like placidity. The overflow from the milk-coolers, placed in a building adjoining a manure yard, passed through a pipe in the floor to a dirty cattle trough which was some forty yards distant in that yard. The junction with this pipe was by an india-rubber tube with a metal screw union, which was disengaged when not in use. The open pipe in that case helped to ventilate the dirty trough into the milk-cooling department. The milk was coarsely filtered before passing over the coolers, and the filtrate was found to contain a plentiful admixture of manure and stable refuse, as was obvious must be the case when inspecting the cows, the sheds, the milkers and their milk-pails.

In another large dairy farm, not far from London, supplying milk to a well-known London Dairy Company, Dr. Carpenter found a herd of manure-begrimed cows huddled together as close as sardines in a tin, surrounded by manure-bespattered walls, in a pestilential atmosphere. Here was the milk-cooler, and to this manure-impregnated air the milk was freely exposed. The water for the milk-cooler was supplied and paid for by meter, and, passing through the cooler, it discharged into cattle troughs situated in the centre of a manure yard. These troughs contained manure, both inside and out. For washing the churns and utensils the water was taken from these to fill a copper in an adjoining house by a dirty bucket. The water in the copper was nicely warm, and in it the utensils were cleaned. The farmer, when remonstrated with, was most abusive, and perfectly satisfied with his culinary and other arrangements.

The East London Hospital for Children have also made a special feature of their milk, paying a higher price than most other children's hospitals so that they might obtain a purer article than ordinarily vended. And they were prepared to go further than that, and to found a milk dispensary, but financial obstacles unfortunately compelled the abandonment of their philanthropic scheme.

Nor has the BRITISH JOURNAL OF CHILDREN'S DISEASES been behindhand in demanding a *pure* milk supply for our children's hospitals and infantile population. Since its foundation in January, 1904, it has preached the importance of, and the necessity for pure milk for children. Editorials have appeared from time to time on this theme under the following and other headings—viz.: "The Milk supplied to Infants,"* "Milk Dispensaries for Children's Hospitals,"† and "Municipal Milk Shops."‡

In our editorial on "Milk Dispensaries for Children's Hospitals" we drew attention to the farce of periodical inspections undertaken by a medical man other than the medical officer of health for the district, especially by a medical man in the employment of the dairy company. But such so-called inspections are largely advertised as baits to prospective customers. The worthlessness of such guarantees of observances of cleanliness is evidenced by the inspections we have just related. But such a state of affairs could not obtain if the provisions of the Dairies, Cowsheds, and Milk-shops Order of 1885 were properly administered by the local authorities, and if the officials performed their duties conscientiously. We, however, welcome the recommendation of the Conference that inspection of the farms should be undertaken periodically by accredited representatives from the hospitals. But we hope that representatives will be appointed who are experienced and interested in these matters, and that the inspections will be thorough and searching. We also hope that this Conference is but the initiation of many such conferences on matters appertaining to the welfare of the children by the boards of management of the various children's hospitals.

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* February, 1904, pp. 76–79, vol. i.

† March, 1904, pp. 123–128; *ibid.*, p. 194.

‡ October, 1904, pp. 450–452.

In 1904 we pointed out, and repeat it, that children's hospitals must take the lead in instituting reforms in infantile dietetics. Such reforms should not be left to the initiation of well-meaning sanitary authorities—they are apt to be badly advised and injudicious in the selection of their methods from an expert medical standpoint. It is not a matter for congratulation that those who are best qualified to lead, and who ought to have initiated reforms, should have so signally failed to rise to the occasion. Though children's hospitals should be pioneers in educating public opinion, it is clear that the question is one of national importance, and sanitary authorities have shown that they are alive to their responsibilities, and that they are prepared to take action.

At the present time Parliament are considering the advisability of legalising municipal milk depôts for the supply of sterilised milk.

Before the Act is passed delegates should be received from the children's and other hospitals to point out the dangers to the public from sterilised milk. The views of those who have had experience of disease, and infantile complaints in particular, have not yet been heard, and it is high time that they should be. We confess to feelings of surprise and disappointment that no decision was arrived at by the Conference in regard to tuberculous milk. Seeing that so large a proportion of deaths occurring at children's hospitals arise from tuberculous disorders, it is regrettable that the Conference shirked a definite pronouncement on this question. The groundless fear that the milkman would revolt if required to supply children's hospitals with milk obtained from tubercle-free cattle appears to have prevented it insisting upon the periodical testing of milch cows by tuberculin.

But where the children's hospitals should lead it is left to sanitary authorities to show the way, and progressive urban districts, such as Beckenham, feel it to be their duty to become possessed of a special Act of Parliament empowering them, amongst other things, to test dairy cows in this way.

The present system of treating bottle-fed nurslings by drugs when the milk is at fault should also be considered at some future conference. For are not our out-patient departments crowded by cases of bowel complaints, especially in the summer months? What the infants are suffering from is dirty milk, and some scheme should be devised whereby the sufferers can receive the appropriate remedy, viz. *pure milk suitably mixed with water,* instead of a bottleful of ineffective though costly ingredients. Such cases can be more appropriately treated by a milk dispensary than by a drug dispensary.

Whether in the fulness of time children's hospitals will be enabled to club together and supply their own pure milk from a reasonable distance from town, to be delivered at their doors night and morning by a motor van, is well worthy of a conference's consideration, and the possibility of carrying through such a scheme should not be lightly cast aside. Before then, however, we may be in possession of the ideal food in the shape of a dried, pure cow's milk, which, when mixed with water, will not only be easy of digestion by the infantile stomach, but will also be a guarantee against scurvy. Should that happen the troubles and expenses of transit of unnecessary water, and the contamination of the fluid *en route,* will be banished, and the difficult problem of how to bring a pure and inexpensive milk straight to the infant will have been solved. Until that time arrives, however, the efforts of the children's hospitals should be unceasing to supply pure milk to their patients, and they must rely on their own exertions rather than await developments by the Public Health authorities.

The Conference has met, it has inaugurated a new order of things —viz., the desirability of the children's hospitals appointing representatives for the discussion of difficult hospital problems, and the advisability of taking united action in the common interests. Not only has the Conference met, but it has broken up with the feeling that good work has been accomplished, that the meeting was most successful in every respect, and that there remains good work still to be done.

Abstracts from Current Literature.

Medicine.

Relapses in typhoid fever in children ('*Arch. of Pediat.*,' *January*, 1907).—**Koplik** and **Heiman**, after a study of a series of cases, conclude that relapses in typhoid fever are more common in children than in adults, and occur in about 15 per cent. of the cases. The average duration of a relapse in a child is from one to two weeks. The temperature rises rapidly, continues high during the relapse, and then falls rapidly to normal. The spleen is enlarged in nearly all the cases; a rash is present in about 75 per cent., and leucopenia in about 60 per cent. Mild abdominal symptoms occur in about half the cases. Complications are mild and infrequent. The severity of the original attack has no bearing on the occurrence of a relapse, but a relapse following a mild primary illness is not as likely to be repeated as one occurring after a severe one. The enlargement of the spleen is liable to persist after the relapse has subsided, and the mortality is exceedingly low. T. R. WHIPHAM.

Dulness behind the left clavicle in children ('*Arch. of Pediat.*,' *February*, 1907).—**Hamill** describes an area of dulness behind the inner third of the left clavicle, which he found to be almost invariably present in normal children. His attention was first drawn to the point while endeavouring to ascertain the existence of enlarged bronchial glands in cases of broncho-pneumonia. The dulness described was generally found to be present, but further observations on normal children proved that it existed in them also. The area varies in extent, but is usually confined to the inner third of the clavicle and the intercostal space immediately below. The author believes that the dulness is due to the great vessels, which are allowed to come into close relation with the anterior thoracic wall owing to the posterior position of the lung in early life. T. R. WHIPHAM.

Chronic spleno-pneumonia in infancy ('*La Pediatria*,' *November*, 1906, *p.* 818).—**A. Jovane** reports fully three cases of this disease from the children's clinic at Naples, and gives in tabular form the differential diagnosis between it and exudative pleurisy, chronic interstitial pneumonia, and pleurogenic pneumonia. The special features of spleno-pneumonia are:

(1) No asymmetery of thorax. (2) Intercostal spaces normal. (3) Thoracic mobility much diminished. (4) Cardiac impulse evident and not displaced. (5) Thoracic fremitus much diminished or abolished and passing gradually to normal fremitus from the diseased to the healthy area. (6) Dulness at the apex or at the base. (7) Absence of scodaic resonance in the subclavicular region. (8) Vesicular murmur absent or feeble. (9) Blowing breathing almost constant in the stage of invasion. (10) A few evanescent fine râles. (11) Absence of pleural friction. (12) Œgophony extensive at the onset. (13) Broncophony idem. (14) Traube's semilunar area preserved. (15) In making an exploratory puncture the needle first encounters a resistance (thoracic wall), then an empty space (pleural cavity), then the sensation of striking a hard body (lungs); no fluid is found except a very small quantity of serum should there be pleural complications. (16) Expectoration scanty, frothy, and sticky; rarely slightly purulent. (17) Vague thorax pains. (18) Frequently intestinal disturbance. The conclusions arrived at from a study of these cases are: (1) Chronic spleno-pneumonia is much more frequent than is generally believed; it easily escapes the notice of the physician because it is confused with other diseases of the respiratory apparatus. (2) The age most favourable to its development is the second year. (3) Males seem more predisposed to the disease. (4) The left lung is the more frequently affected. (5) The disease has a special pathology, which is obscure. (6) Its symptomatology has several characters in common with other lung diseases. (7) It is sometimes associated with moderate pleural exudation. (8) Exploratory puncture is essential for its diagnosis. (9) During its course, which is prolonged sometimes for many months, alternate phases of aggravation and partial resolution occur. (10) Rapid changes of weather produce exacerbations. (11) While the digestive functions are satisfactory the prognosis is good, but, when confirmed, intestinal disorder occurs; a state of cachexia results which ends fatally.

VINCENT DICKINSON.

Scientific infant-feeding ('*Arch. of Pediat.*,' 1907, *vol.* XXIV, *p.* 8).—**H. Dwight Chapin** draws attention to the confusion introduced into descriptions of infant-feeding by the lack of a uniform nomenclature for the different nitrogenous elements. The proteids vary according as the milk is diluted with water, lime-water, bicarbonate of soda, or citrate of soda. Halliburton introduced the name "caseinogen" for the proteid in milk, which is the mother substance of the curd or casein. German writers call the curd "paracasein," and the mother substance "casein." Van Slyke and Hart term the mother substance "free casein," and ascertained that it is combined with lime in fresh milk as "calcium casein." This free casein can combine with alkaloids, alkalies, or acids. It combines with lactic acid and forms sour milk curds, and similar curds can be made with acetic, hydrochloric, and sulphuric acids. Hence caseinogen is equivalent to calcium casein, and, by the action of rennet, forms the curd. A basic calcium casein is formed by adding lime-water to milk until it is neutral to phenolphthalein; it does not curdle with rennet. It is a caseinogenate of calcium, if the normal constituent of milk is called dicaseinogenate of calcalcium. Caseinogenates of potassium or sodium can be formed by adding suitable alkalies to milk. Chapin suggests that the following terms should be used in reports, viz.—simple diluted milk: normal calcium casein; milk and lime-water: basic calcium casein; milk and bicarbonate of soda: basic calcium casein and antacid; milk and citrate of soda: sodium casein;

buttermilk: casein lactate. It is obvious that in the various methods of feeding very different milk products are given to the infant.

EDMUND CAUTLEY.

The caloric value of infant food (*'Arch. of Pediat.,' vol.* XXIV, 1907, *pp.* 81 and 86).—**J. J. Thomas** insists on the importance of estimating the caloric value of infant food, and **J. W. Moorehouse** determines that of modified milk. A calorie is the amount of heat that is needed to raise the temperature of 1 kilo of water one degree (Celsius). An adult requires 30 to 35 calories a day per kilo of body-weight. An infant requires 100 calories per kilo (= 45·4 per pound) during the first three months; 90 to 100 calories during the second three months; 80 to 90 during the rest of the first year. If the energy-quotient (the name given by Heubner to the caloric value per kilo) sinks to 70 (31·8 per pound) the child remains stationary in weight. Atrophic and premature children require 120 calories or more, because of the relatively greater body-surface and loss of heat. The average caloric value of breast-milk is 650 per litre (10 oz. = 191·3 calories); of cows' milk 690–700 per litre (10 oz. = 203 to 206 calories). The caloric value of every article of the infant's diet has been accurately ascertained. Moorehouse points out that the determination of the nutritive value of a dietary is the determination of its caloric value. It is easily calculated in the case of modified milk, for 1 grm. of proteid or sugar yields 4·1 calories, and 1 grm. of fat yields 9·3 calories. EDMUND CAUTLEY.

Etiology of infantile tuberculosis (*'L'Echo Méd. du Nord,' December* 16, 1906).—**Calmette** draws attention to the writings of Comby, showing the extreme frequency of tuberculous contagion in a family. He considers transmission from the cow is rare, and that more attempts have been made to prevent the spread of tuberculosis in the cow than in the human subject. In a family an infant is contaminated by soiled objects which he carries to his mouth. The kisses of a tuberculous person, or the tasting of his food by such an one, walking on all fours, dirty handkerchiefs or clothes, all favour the introduction of germs into the digestive tube. Fortunately nature has provided the infant with lymph-glands of marvellous defensive power, so that only repeated infections can conquer. A study of clinical facts shows that the intestine and the lymphatic system are the normal points of entry of tuberculous infection, though it is possible the respiratory tract may sometimes be the point of entry. The reason that primitive lesions of the intestine are so rare is probably that microbes often traverse easily the mucous membrane without leaving any trace. If, then, infection is frequent by the digestive tract in the way described, hygienic precautions should lessen much the incidence of tuberculosis.

J. PORTER PARKINSON.

The prophylaxis of scarlatinal nephritis (*'Edin. Med. Journ.,' February*, 1907).—**H. P. Thompson** finds that out of 47 cases of scarlet fever treated with urotropine none developed nephritis, while of 137 treated with hexamethylene tetramine 10·9 per cent developed this complication. Of 24 not treated with any drug 8·3 per cent. developed nephritis. He concludes scarlatinal nephritis is a distinct part of the disease, not a sequela, and should be open to treatment. The cause of it is an organism, and the only treatment of value is to kill outright or weaken the virus. Milk and farinaceous diet should be insisted on for the first three weeks, and for two weeks more the patient should be kept indoors. All methods of excretion should be encouraged, and the throat may be swabbed with an alkaline solution to remove mucus, followed by a weak antiseptic, such as chlorine water or Listerine. All cases should be given 5 to 7½ grains of urotropine three times daily for the first four weeks of the disease.

J. PORTER PARKINSON.

The signification of blood-cultures in children ('*Journ. Amer. Assoc.*').—**Rotch** and **Low.**—In many cases of auto-infection a blood-culture is the only way to determine whether sepsis is or is not present. Improved methods of investigation have demonstrated a large number of organisms in the blood. For example, paratyphoid can be distinguished from typhoid in the early stages of the disease only by blood-cultures, and in three cases supposed to be scarlet fever Hektoen found the bacillus of typhoid in the blood when there were no typhoidal symptoms. In a hundred cases of scarlet fever Hektoen found streptococci in 9 per cent. of the mild cases and 27 per cent. of the severe cases. This may be simply evidence of a secondary infection. It has been shown that a pneumococcal sepsis may exist without a true pneumonia, while, according to Hektoen, pneumococci are present in all cases of pneumonia. In cerebro-spinal meningitis it will not be of great value, as the fluid obtained from lumbar puncture is easier and just as constant in its results. The blood is taken from a superficial vein of the arm, and in no case has there been any trouble from hæmorrhage. The blood is withdrawn by an antitoxin syringe, the media used are agar on plates and bouillon with and without glucose. The cases in which bacteriological examination of the blood will help are those obscure conditions of so-called "cryptogenic septicæmia" and auto-intoxication.

J. PORTER PARKINSON.

Therapeutics.

Plasmon as an aid to lactation ('*La Pediatria,*' *November*, 1906, *p.* 859).—**C. Quaglio** describes some cases which seem to point to the utility of giving plasmon to nursing women. He does not assert that it is really galactogenic in the sense that it stimulates the secreting epithelium, but for the poor who have insufficient nourishment, or in those in a weak condition of health, the richness of plasmon in nitrogenous elements, its assimilability, the complete tolerance on the part of the intestine, and its cheapness, are facts worthy of notice by the practitioner. Plasmon improves not only the quantity but the quality of the milk by increasing the fat.

VINCENT DICKINSON.

Treatment of whooping-cough ('*Arch. of Pediat.,*' 1907, *vol.* XXIV, *p.* 112).—**T. W. Kilmer** advocates the use of an abdominal belt as beneficial, especially in preventing vomiting. The belt is made of linen with a strip of silk elastic webbing, two inches wide, inserted on either side to give it elasticity. It laces up the back, and the degree of constriction can be thus varied. It is worn over the under shirt or band. The width for infants is four or five inches, and five to eight inches for children. A slight degree of constriction is sufficient to moderate the cough and prevent vomiting.

EDMUND CAUTLEY.

Surgery.

Ruptured gastric ulcer in a boy, aged 12 years (*'Scot. Med. Surg. Journ.,' September,* 1906). - **S. K. Patterson** records the case of a boy, aged 12 years, who developed gastric pain after food. The pain was of a burning character, and was apparently regarded as merely dyspeptic in origin. On the twelfth day of the illness he suddenly felt a very severe pain in the abdomen. Seen an hour later, he was collapsed and pale, with slow pulse and rigid abdomen. In thirty minutes all symptoms of shock had passed off under fomentation and gentle friction of the abdomen, and the case seemed one simply of severe colic. By the following morning, however, all the signs of peritonitis were present, and a peritoneal rupture was diagnosed. On opening the abdomen general peritonitis was discovered, with a ruptured ulcer on the anterior wall of the stomach two inches from the middle of the lesser curvature. Cultures from the peritoneal fluid showed staphylococci. After the operation the patient developed what appears to have been a prolonged pneumonic attack, but eventually this complication subsided, and the ultimate result was one of perfect recovery. In the literature of the subject the writer was able to discover only fifteen recorded cases of ruptured gastric ulcer in children under fourteen years of age, and in only one of these was the condition recognised during life.

E. P. Baumann (Johannesburg).

Spino-facial anastomosis for facial paralysis of ten years' duration on a boy aged 12 years (*'Journ. de Med. de Bordeaux,' January,* 1907).—**Rocher.**—The spinal nerves to the trapezius were jointed to the facial trunk, owing to paralysis from suppurative otitis media. Fifteen days after operation there was a return of reaction to galvanism in the orbicularis oris, and further improvement took place later and is still going on.

J. Porter Parkinson.

The surgical treatment of empyema (*'The Post-graduate,' February,* 1907).—**S. Lloyd,** in a lecture on the above subject, says primary empyema is a very rare condition. The physician, he states, as a rule does not recognise the transition of a simple serous effusion into a purulent accumulation; he postpones the accurate determination of the presence of pus, causing greater damage to the lung, and, by absorption, to the general condition of the patient. He says the cases diagnosed as unresolved pneumonias are often really cases of empyemata, and the aspirating needle is the best means of distinction. The X rays are also valuable in the hands of an expert. In cases of empyema after operation, where expansion of lung does not occur, he recommends pushing down all adhesions about the collapsed lung, followed by the method described in the 'Annals of Surgery,' March, 1907, in order to produce expansion of the collapsed lung.

J. Porter Parkinson.

Congenital absence of the tibia (*'L'Echo Méd. du Nord,' February,* 1907).—**René Le Fort** records this error of development in an infant, aged 2 months. The limb was rotated inwards, so that the plantar surface of the foot was in contact with the thigh and faced the perineum. The integuments were shortened on the inner side, and a band of tissue joined the upper and lower parts of the limb. The skin had a normal appearance, but was bound down to the external aspect of the fibula. There was no other malformation in the infant nor in the other members of the family. The affection is a rare one, only fifty-seven cases having been recorded.

J. PORTER PARKINSON.

Congenital left torticollis treated by partial resection of the sterno-mastoid and reconstitution of the tendon by silk thread (*'L'Echo Med.,' March*, 1907).—**Gaudier.** The torticollis was severe, and had existed for several years. The two chief tendons of the sterno-mastoid were separated from surrounding parts, the tendons were then divided and re-constituted with loops of silk while the head was supported in the correct position. No apparatus was used afterwards, and the child left the hospital eleven days after the operation. The result was perfect, the faulty position being entirely corrected. J. PORTER PARKINSON.

Leontiasis ossea (*'Brit. Med. Journ.,' February* 2, 1907).—**S. Horace Law**, at a meeting of the Section of Surgery of the Royal Academy of Medicine of Ireland, held on January 11, described an early case of this condition. When first seen, some four years ago, the swelling was much less marked, and he did not think it was pathological, though he was struck by the bilateral enlargement on each side of the nasal processes of the superior maxillæ. Nasal obstruction was complained of, but removal of adenoids gave only temporary relief. In November, 1906, the enlargement was more marked, and the condition was then as follows: The patient is a small boy for his age (12), but upright and sturdy. General health good; only complaint nasal obstruction. On examination, a hard bilateral growth is seen in the infra-orbital region, pushing the eyes outwards and causing exophthalmos. The lateral walls of the nose are pushed towards the middle line, so as to occlude the nostrils, though a probe can be pushed up to the sphenoid, etc., and air can be blown through the nose. Nasopharynx not involved. Pharynx and palate normal. The antra of Highmore are dark to transillumination, and an ordinary antrum-drill passed in through the canine fossa on the right side failed to reach a cavity. The bone was soft and spongy. It might, therefore, be concluded that there were two large osseous masses lying on either side in the infra-orbital regions, filling both antra, and extending in various directions. Incidentally, he had dacrocystitis on both sides. X-ray photographs showed dense shadows corresponding to the obvious growths. J. ALLAN (Edinburgh).

Congenital lumbar hernia at the triangle of Petit (*'Ann. of Surgery,' February*, 1907).—**Charles N. Dowd.**—The patient, a child, first came under notice, when three months old, for a protrusion in the lumbar region. This was about the size of a goose-egg, and the margins of the hernial openings could be distinctly felt and corresponded to Petit's triangle. An elastic belt held the protrusion well in position for more than two years, but as the child grew the hernia also increased in size, and the accompanying weakness was a menace to the child and, consequently, a source of much anxiety to the parents. The opening was larger than the palm of one's hand, and bulged in a marked way on coughing or on exertion. There were two transverse constrictions across it, and in the lower part there was a distinct soft nodule. On incision, the hernia was seen to come through the triangle of Petit, which was greatly enlarged. The transverse bands were thickened portions of the lumbar fascia. The nodule was the lower end of the appendix vermiformis, and this was removed. The sac of the hernia was distinct, but there was no narrow neck. A portion of the sac was exsected, and the tissues were then brought together from the sides, the margins of the external oblique and latissimus dorsi being drawn together as far as possible. After this was done there was, however, a triangular defect above the iliac crest. An effort was made to close this in with an aponeurotic flap turned up from below, consisting of part of the fascia lata and the aponeurotic tissue about the insertion of the gluteus maximus and medius. There was, however, still a triangular defect above the flap, and this, together with the repaired area, was covered by turning forward a flap cut from the aponeurosis of the latissimus dorsi. This was stitched to the external oblique. The closure of the defect was satisfactory, but the operation had the prime effect of leaving a large amount of ill-nourished tissue in the wound and much chromicised gut which was used for stitching. The greatest possible strain was put upon this tissue, since the child promptly developed pneumonia and, at a later time, German measles, and there was a suppuration of the wound. In spite of these complications, however, the result is good, and the lumbar wall is firm, eight months having elapsed since the operation. The boy walks and holds his body well, and does not seem to suffer from the injury which has been done to the aponeurotic structures of the region. J. Allan (Edinburgh).

Cleido-cranial dysostosis ('*Brit. Med. Journ.*,' *March* 23, 1907).—**Abram** exhibited before the Liverpool Medical Institution a lad, aged 16 years, who presented this condition. The clavicles were absent, the cranium typically brachicephalic, and the anterior fontanelle still largely open. He was also to some extent a cretin—the full face, arched eyebrows, thick neck, short stature, lordosis of the spine, and typical waddling gait, full abdomen with unfolded umbilicus, undeveloped genitals, the absence of pubic hair, the coarse hair of scalp, and characteristic broad hands, all pointed to a degree of athyroidism. J. Allan (Edinburgh).

Congenital deformity of femur ('*Brit. Med. Journ.*,' *March* 23, 1907).—**F. M. Blumer** showed, at a meeting of the Staffordshire Branch of the British Medical Association, a female child, aged 12 months, whose right femur was 2½ in. shorter than the left. The birth was normal, the head presenting, and the deformity was at once noticed. The hip-joint was normal, and the shortening appeared to be due to arrest of development of the lower epiphysis. The patella was quite rudimentary. At the same meeting, **B. Cridland** showed a case of movement of the right upper eyelid on depression of the jaw. The patient was a boy, aged 8 years, with left internal strabismus and slight ptosis of the right eye. With any movement involving depression of the lower jaw there was associated an involuntary raising of the right upper lid, most marked in the inner half. In moderate depression of the jaw the lid was raised to the upper edge of the cornea, and with an extreme depression of the jaw the sclera above the cornea was shown to the extent of 1 mm., or slightly more. It was pointed out that the explanation of this might lie in an abnormal action of the involuntary muscular fibres attached to the tarsus and associated with tongue movements, or it might be due to mechanical abnormality in the shape of a band of fascia possibly connected with the temporal fascia.

J. Allan (Edinburgh).

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Original Articles.

TUBERCULOUS DISEASE OF THE SPINE IN CHILDREN.

Thesis accepted by the London University for the M.S., December, 1906.

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Spinal caries is the somewhat inaccurate name given to all forms of tubercular disease of one or more vertebræ. The name is, to say the least of it, incomprehensive, for though a primary, superficial caries does occur fairly frequently in adult life, in children, the class most susceptible to this form of tuberculosis, and from whom the observations on which this paper is based, have mainly been drawn, this pathological type is rare.

Pathology of Spinal Caries.

Tuberculous disease of the vertebræ may be said to conform primarily to one of two pathological types:

(*a*) The localised soft caseous deposit, or the sequestrum, in the interior of the bone.

(*b*) The primary superficial caries.

(*a*) *The soft deposit or the sequestrum*, the usual form met with in

Tabular Form of the Cases forming the Basis of this Paper.

		Sex	Age.	Situation of disease.	Family history.	Previous injury.	Abscess.	Other complications.	Treatment.	Progress.
1	T. B.	M.	5	Lower dorsal	None	Fall off railings	None	None	Rest, supports, commenced March, 1903	Cure, no return of symptoms since May, 1903.
2	H. T.	F.	7	Cervical	,,	None	,,	,,	Rest, supports, commenced March, 1906	No return of symptoms since April, 1906.
3	D. A.	M.	3	Upper dorsal	Doubtful	,,	,,	,,	Rest, etc., commenced March, 1903	No return of symptoms, weakness of back now.
4	H. A.	M.	3	Mid-dorsal	None	,,	,,	Necrosis of temporal bone, tubercular otitis media, dactylitis	Rest, etc., commenced June, 1906	Pain recurred two months after commencement of treatment recommended.
5	B. G.	F.	3	Mid-dorsal	,,	,,	,,	Tubercular adenitis	Rest, etc., tuberculin injections commenced April, 1906	Glands improved under tuberculin, no return of spinal symptoms.
6	G. R.	M.	2	Mid-dorsal	,,	,,	,,	Rickets	Rest, etc., commenced June, 1906	No return of symptoms.
7	A. F.	M.	10 mos.	Mid-dorsal	,,	,,	,,	,,	Rest, etc., commenced June, 1906, Phelps' box	,,
8	E. T.	F.	7	Mid-dorsal	Phthisis in family	Knocked down in the street	,,	None	Rest	,,
9	H. C.	M.	2½	Upper dorsal	None	None	,,	,,	Rest, commenced March, 1906	No return of symptoms, cure.
10	G. J.	F.	1¾	Upper dorsal	,,	,,	,,	Tubercular elbow	Rest, commenced December, 1905	No return of active symptoms, weakness of back, wears poroplastic support.
11	J. H.	M.	3½	Upper dorsal	Phthisis in family	,,	,,	Tubercular keratitis	Rest, commenced December, 1905	No return of symptoms, cure.
12	E. G.	F.	6	Upper dorsal	None	Fall, 2 months before onset	,,	None	Rest, December, 1905	No return of symptoms, cure.

Tabular Form of the Cases forming the Basis of this Paper—continued.

		Sex	Age.	Situation of disease.	Family history.	Previous injury.	Abscess.	Other complications.	Treatment.	Progress.
13	C. H.	M.	3	Lower dorsal	None	None	Psoas abscess	None	Aseptic incision of abscess, first intention, rest, commenced May, 1905	No return of symptoms.
14	D. O.	M.	5	Lower dorsal	Phthisis in family	,,	,,	,,	Aseptic incision April, 1905, subsequent septic infection of wound, hospital treatment refused after June, 1905	Sinuses still discharging.
15	F. C.	M.	9	Cervical	None	,,	Sinus 3 in. long in posterior triangle leading to spine, following an abscess which had burst	,,	Rest, jury mast, February, 1905	Sinus healed November, 1905, no return of symptoms.
16	T. G.	M.	7	Lower dorsal	,,	,,	Loin	,,	Incision, scraping abscess, subsequent sinus, rest, etc., commenced June, 1904	Sinus healed, no return of symptoms.
17	E. W.	F.	8	Mid-dorsal	,,	,,	,,	,,	Incision, scraping, subsequent sinus, rest, etc., commenced June, 1904, scraping repeated several times	Developed albuminuria, disease became progressively worse, died.
18	A. R.	M.	3	Lower dorsal	,,	,,	,,	,,	Incision, scraping, subsequent sinus, rest, etc., commenced February, 1905	Sinus healed since June, 1906, no return of symptoms, cure.
19	J. B.	M.	5½	Mid-dorsal	Advanced phthisis in mother	,,	,,	Hip disease	Incision and scraping sinus in loin several times, rest, etc., commenced July, 1903	Progresses badly, wasting, developed phthisis, prognosis bad, refused tuberculin treatment.
20	J. N.	F.	3	Cervical	None	,,	Prevertebral abscess	None	Scraping sinus, rest, etc., later, tuberculin injections	Sinus healed under tuberculin.

Tabular Form of the Cases forming the Basis of this Paper—continued.

		Sex.	Age.	Situation of disease.	Family history.	Previous injury.	Abscess.	Other complications.	Treatment.	Progress.
21	E. W.	F.	8	Dorsal lumbar	None	None	Abscess in groin	Hip disease	Scraping sinus, rest, commenced July, 1904, later, tuberculin	Sinus healed under tuberculin in 2 months, cure.
22	W. B.	M.	10	Cervical	,,	,,	Prevertebral abscess	Paraplegia	Laminectomy in 1901, plaster support for 6 months, sinus in neck ever since, two curettings, tuberculin	No return of spinal symptoms after laminectomy, sinus unchanged by tuberculin treatment.
23	W. A.	M.	3	Dorsal lumbar	Phthisis in family	,,	Abscess in groin, sinus	None	Rest, etc., several scrapings, commenced July, 1905, tuberculin injections and staphylococci vaccine	Sinuses nearly healed under vaccine treatment.
24	C. E.	F.	9	Dorsal	None	,,	Dorsal abscess, later sinus	Later phthisis	Rest, etc., commenced February, 1905, tuberculin	Progress bad, tuberculin no effect.
25	V. G.	F.	6	,,	,,	,,	Dorsal abscess, later sinus	,,	Rest, etc., commenced February, 1905	No return of spinal symptoms, death from phthisis.
26	L. K.	F.	6	,,	Phthisis in family	,,	None	Fresh infection of phthisis	Rest, etc., commenced in 1901, phthisis developed in 1906, tuberculin treatment for phthisis, also sanatorium	No return of spinal symptoms, phthisis improved by sanatorium treatment.
27	J. C.	M.	6	,,	None	Fall in the street	,,	Paraplegia	Rest, extension, commenced December, 1905, laminectomy April, 1906	Symptoms remained throughout, conservative treatment, death from miliary tubercle.
28	S. W.	F.	9	,,	,,	None	Abscess over spines, tubercular	,,	Rest and extension, commenced January, 1906, laminectomy April, 1906	Symptoms persisted throughout conservative treatment, cure after operation.

children. The pathological sequence of the stages of the disease may briefly be described as follows:

Tubercle bacilli become deposited from the blood in the cancelli of the bodies of one or more vertebræ, and give rise to a collection of epithelioid cells which either become differentiated into round areas forming micro- or macro-scopical tubercles, according to their size, or remain undifferentiated as diffuse, infiltrating tubercular tissue. In either case an area of simple inflammatory round-cells occurs round the specific formation due to the irritation set up, primarily by the pressure of the latter in the surrounding normal tissue, and secondarily to the gross weight of the trunk above the seat of disease pressing on the softened vertebræ.

As the tubercular tissue spreads into and replaces the granulation tissue, the latter extends further into the normal cancelli of the bone which thus become progressively absorbed, while in the central part the tubercular tissue either breaks down into caseous pus forming the *soft tubercular deposit*, or may in parts caseate and in other parts organise first into fibrous tissue and then into sclerosed bone, which then comes to lie more or less loose in caseous pus forming *sequestra*. Sequestra are not frequently seen in children, suppuration occurring as a rule too rapidly to allow of their formation, and when they are present they are usually in the form of extremely minute crumbs of bone lying in the pus.

The disease thus spreading ultimately reaches the surface, either, as is more common, at the front or sides of the body, perforating into the soft parts around the front of the spinal column, this being the direction of least resistance, or backwards into the spinal canal. In either case a certain amount of destruction of bone is inevitable, and the weight of the bodies above, causing pressure upon the softened bone below, gives rise to a tilting backwards of the spine of the uppermost diseased vertebra and thus causes the angular curvature of the spine which is the typical clinical feature of the disease.

When the disease has reached the surface one of two further possibilities arises:

(*a*) A secondary superficial caries occurs, spreading along the surface of the bodies, incidentally destroying the inter-vertebral discs for a greater or less distance.

(*b*) A localised abscess forms, surrounding the spot where the caseous deposit has reached the surface.

The following two cases illustrate such abscess formations occurring anteriorly and posteriorly respectively:

Case 18.—A. R—, aged 3 years, presented a fluctuating swelling below and to the left side of the umbilicus, in front of the abdominal muscles, measuring 5 in. by 3 in. At this time there was no curvature or tenderness of the spine. The cyst proved to be an abscess containing curdy pus with minute sequestra, and the interior admitted a probe through a sinus passing upwards and backwards to meet bare bone in the region of the bodies of the lower dorsal vertebra. In this case, probably the deposit was primarily near the anterior surface of the body of the vertebra, and had perforated early, giving rise to an abscess in the soft parts before there was time for any appreciable inflammatory reaction and bone absorption, as evidenced by the absence of pain and deformity.

Case 27.—J. C—, aged 6 years, showed well-marked signs of compression paraplegia, with prominent curvature in the upper dorsal region. Laminectomy was performed, and an abscess was found on the anterior surface of the cord in connection with a soft spot in the posterior part of the body of the fifth dorsal vertebra.

(*b*) *The superficial caries* is due either to a primary deposit of tubercle in the periosteum or surface of the bone, or is the secondary result of the perforation of an internal deposit on to the surface, as above stated. This form often causes but very slight deformity, accentuating one of the normal curves or producing a slight abnormal prominence, rather than an angular projection. The disease, however, being on the surface, naturally spreads rapidly to the adjacent soft parts, giving rise to pus which tends to form along definite planes, pointing in referred spots, and forming the typical tubercular abscesses of the various regions—*i. e.* axillary, thoracic, psoas; and whereas this type of disease is commoner in adults than children, it follows that these abscesses are more frequently seen in the former, while the localised abscess which forms around a tuberculous deposit in the bone is more characteristic of the latter.

I have had the care of several cases of typical psoas abscess, in many of whom the abscess was the first sign of disease noticed—a feature which is not at all unusual.

Hitherto I have spoken of the disease only as it affects the bodies, but in rare cases it occurs in the transverse processes, or spines, and in these quickly gives rise to abscess, the disease being so near the surface.

The following is probably an example of this type :

Case 4.—H. A—, aged 3 years, was in the hospital with tubercular necrosis of the temporal bone and dactylitis. On his discharge both conditions appeared cured, the general condition was vastly improved, and there was no sign of spinal trouble. Two weeks later, however, he was brought back for pain in the back, and a marked, though ill-defined, puffy swelling was found to the right of the tenth, eleventh, and twelfth dorsal spines. This swelling was tender, and much pain was caused by pressure over the transverse processes, indicating the possibility of localisation of disease in this situation. The case improved under treatment, and having obviously been taken early the formation of pus was arrested, but from the puffiness and acute tenderness there is no doubt that it was threatened even as early as two weeks after onset.

When a cure obtains, under suitable treatment, the inflammatory granulation tissue organises into fibrous tissue and then into bone, much in the manner in which a fracture unites by organisation of the inflammatory cells into callus, then into bone. The growth of tubercular tissue is in this way inhibited by the deprivation of the surrounding granulation tissue, and in time becomes the seat of calcareous deposit, causing, in the most favourable cases, a complete obliteration of all specific character, while in other cases small tubercular areas may become shut off and remain quiescent. It must, therefore, be remembered that in any condition of so-called "cure" it is impossible to say whether or not a potential focus of disease is present, which may be lighted up into activity under favourable circumstances.

Etiology.

Order of frequency.—Spinal caries is by most authors stated to be the commonest tubercular bone affection in children.* Amongst all the cases of tubercular diseases of bones and joints attending the Victoria Hospital for Sick Children, Hull, during the last four years, 27 per cent. were spinal, 39 per cent. hip disease, and all the remainder were divided between the other bones and joints. Thus according to my statistics spinal caries is not so common in children as hip disease.

Previous injury and relation to sex.—Comparing the history of all cases of spinal and hip diseases, I have found that the tendency of the disease to follow upon local trauma is greater in the latter than in the former; thus, whereas in cases of hip disease almost everyone gives a history of injury, in my series of twenty-eight spinal cases only four gives such a history. This, of course, may be coincidence, but it is possible, I think, that it may have some bearings on the relation of the etiology of sex to the disease.

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* *Vide* Watson Cheyne: tubercular diseases of bones and joints, caries, 40-46 per cent. of all cases. Billroth and Menzel give 23 per cent.

In my series nine cases occurred in girls, that is, approximately 33 per cent., and this is about the usual proportion quoted; further, in my own cases the disease has been on the whole more grave in boys than in girls. The question therefore arises, Why is the disease commoner in the male than in the female? The usually-accepted answer to this, that the male is more exposed to local trauma which excites the specific disease, becomes, according to the above statistics, questionable; and I think that in this connection, the analogy of the very marked proclivity of the male child to acute infective osteomyelitis is pertinent. When the exceedingly slight nature of the exciting injury customary in the latter disease is remembered, the same theory of the greater exposure of the male to injury offers but slight conviction.

Again, comparing the etiology of tubercular joints and bone diseases, respectively, in the hospital record for the last three years, I find the names of 60 joint cases, of whom 36 are girls and 24 boys, while there are 56 cases of purely bone disease, of whom 16 are girls and 40 boys, thus making the former 50 per cent. commoner in girls than boys and the latter 66 per cent. commoner in boys than girls. Moreover, in tubercular joints it is the experience of most surgeons that the disease is more active and rapid in boys than girls, and that while in the latter it is frequently limited to the synovial membrane, in the former bone destruction is more generally seen, again accentuating the fact of the strong proclivity of the male child to acute bone infections, relatively to the female.

It appears that the resistive power of the blood in female children to the bacterial invasions of bones is greater than that in male, and acting upon this hypothesis I examined the opsonic indices for tubercle bacilli in the following cases during the period of active disease and before any interference from vaccine injections:

Case 21.—E. W—. Caries with suppurating sinuses, index 2.

Case 28.—S. W—. Index, taken after operation of laminectomy, the wound persisting unhealthy, 1·6.

Case 5.—B. G—. Simple caries and tubercular adenitis, index 1·3.

Case 2.—H. T—. Mild form of disease; no complication, index 1·6.

Case 8.—E. T—. Mild form, no complication, index 1·5.

On the other hand, all the boys whose blood I have examined showed indices ranging below unity, while I have found no such discrepancy in the relative values of opsonic indices in tubercular joint diseases of girls and boys respectively. These figures are obviously too few to draw any definite conclusions from, but they appear to me to suggest that there is some factor intimately connected with bone, as apart from synovial or other tissue, that causes this peculiar relation of the disease to sex.

Family history etc.—A family history of tuberculosis is present in six of my cases, but upon this and the other usually mentioned etiological factors, such as general health, dietetic, and general hygenic conditions, I have no comment to offer.

Clinical Signs and Diagnosis.

A classification of all cases of spinal caries may be made according to the clinical signs as follows:

(1) Early cases before the establishment of curvature, only diagnosed by the determination of the presence of rigidity of the spine.

(2) Cases with the establishment of spinal deformity, but without complication.

(3) Cases with or without deformity, but with complication.

- (*a*) Abscess.
- (*b*) Some concomitant tuberculous trouble.
- (*c*) Sepsis.
- (*d*) Compression of the spinal cord.

Class I may be best described by the following account of a typical case:

Case 2.—H. T—, female, aged 7 years, came to the hospital with a history of pain and stiffness of the neck for a period of six weeks. On examination she was found anæmic and wasted; there was no deformity of the neck, but a very slight stiffness became apparent on performing lateral movements, while pain was caused by extreme lateral movement. The mother said that she had noticed a habit of the child's to hold the chin in her hand when she was tired. Inside the mouth the right side of the pharynx appeared to bulge slightly, giving a sensation of fulness on digital examination. All these signs were, however, so slightly marked that it was impossible to be sure of the diagnosis. I therefore took her opsonic index, and finding it to be 1·6 it was thought that tubercular disease might definitely be stated to be present. This case shows the difficulty of diagnosis from the clinical signs alone, and in this class I think the estimation of opsonic indices is of great value in clinching an otherwise doubtful diagnosis, an index reaching above 1·2 and below ·8 being indicative of tubercular disease.

Thus, Bullock, in "The Principles Underlying the Treatment of Bacterial Diseases by the Inoculation of Corresponding Vaccines" (*vide* 'Practitioner,' November, 1905), states that from his investigations upon sixty-six healthy subjects, the normal index may vary from ·8 to 1·2, and lays down, as a fundamental precept, that anything below the lower limit represents either that an infection has already taken place or merely may take place, while an abnormally high index probably indicates an actually progressing infection. His explanation of the presence of the high index is that tubercular individuals being "extremely sensitive to quite minute doses of tuberculin, one can conceive that where the disease is progressing the tubercular toxin may be absorbed . . . and then lead to a partial vaccination and consequent rise in the opsonic index."

Bullock quotes from observation on pulmonary cases, since the lung is a highly vascular organ and thus specially adapted to the absorption and transmission of toxin; the same may be said with equal truth of bone, an equally vascular structure.

It may perhaps be suggested here, while considering the existence of a high index in the early stages of the disease, that this may be due to the exposure of the local lesion to the free transmission of the general circulating body fluids—*i. e.* lymph, and that later on, when the throwing up of a specific granuloma by the host has occurred, which protects the bacillus and forms a more or less strong barrier to the circulation of lymph, the opsonins are unable to get into the general circulation, and thus there can be no auto-vaccination. In the later stages, therefore, the index may fall.

In the matter of differential diagnosis there are two conditions which may, with some degree of frequency, be mistaken for the disease in question viz.: (1) rickets; (2) hysteria.

Rickets is specially concerned with young infants, in whom, though I have none in my own series younger than ten months, cases of tubercular disease have been published, occurring in the early months of infancy.

Amongst the numerous cases of rickety spines that throng the out-patient department of children's hospitals there occasionally occurs one that has, superadded, a more serious disease.

Thus, A. F—, aged 2 years, attended the hospital for about three months with a rickety kyphotic spine, and other well-established signs of rickets. One day the mother complained that the child screamed perpetually, especially at night time, and seemed in pain; during the course of examination, having scurvy in my mind, I discovered a rigidity of the spine in the lower dorsal region, and on closer examination I found that besides the kyphotic curve there was a slight angular prominence in the same region. The child was then treated, with entire satisfaction, for spinal caries.

I believe it to be an important maxim, and one that I have latterly made a practice of carrying out, that every case of rickets should be examined specially for spinal caries, since the one has such a tendency to mask the presence of the other, of which the failure of recognition has such disastrous consequences.

Rigidity I have found to be the essential and ever-present complement of every genuine case when all other signs are absent.

Hysteria is not of much importance in connection with children, but its significance cannot be completely ignored. The only case I have seen which offered any difficulty was a boy, aged 12 years, whose parents sought advice for a gradually progressive inability to walk, and a tendency to fall down. On examination his gait was found to be spastic, the legs rigid, but the reflexes normal. Nothing abnormal was found about the spine, though he was hyper-sensitive to pressure all along the column.

The case was first thought to be a spastic paraplegia, of which the commonest cause in children is spinal caries, but the anomaly of the signs raised the suspicion of neurosis, and accordingly an anæsthetic was given, under the influence of which the rigidity entirely disappeared. On returning to consciousness the patient was told that the treatment would be continued weekly until he was able to walk again, after which moral coercion the patient entirely recovered, the spasticity not having recurred during an interval of one year.

Another method of determining the existence of the organic disease, with or without the simultaneous presence of hysteria, is examination by X rays.

A radiograph will sometimes show a tubercular deposit in the bone in a doubtful case, which, of course, will definitely determine the diagnosis.

Class II.—Cases showing angular deformity but without complication.

This class comprises by far the majority of all cases, and the diagnosis of the condition offers, as a rule, no difficulty.

The commonest situation for curvature to be seen is the lower dorsal region, the next in order of frequency being the upper dorsal and lower cervical, while the upper cervical and lumbar regions are rarely attacked. In my series no case of purely lumbar disease has occurred. Several types of this class of the disease are mentioned in the table of cases at the beginning of this paper, but they offer no special point from a clinical or diagnostic point of view.

Class III.—Cases with complication :

(*a*) *Abscess.*—It is usually stated that abscess is relatively commoner in adults than in children, but as I have endeavoured to point out above, while the referred abscess occurring in characteristic situations is the accompaniment of superficial caries and periostitis, the variety of disease typical in adult life, the localised abscess pointing over the seat of disease is common in children and has occurred in 41 per cent. of my series of cases ; this is not surprising when the ease with which the tissues of the young suppurate is remembered.

In both conditions the diagnosis, though usually obvious, is occasionally obscure.

The following case illustrates difficulties that arise in practice :

Case 18.—A. R— (quoted above under pathology), was brought with a fluid swelling measuring 5 in. by 3 in. projecting below and to the left side of the umbilicus. The anterior edge was defined, and a certain amount of movement seemed to be imparted to the anterior portion ; posteriorly it passed insensibly deeply into the muscles near the spinal column, the swelling being anterior to the abdominal muscles in front.

The patient showed no signs of spinal caries and the nature of the swelling was not diagnosed before operation. At the latter it was found to be an abscess cavity containing curdy pus and directly connected with the spine.

(*b*) *Some concomitant tuberculous lesion.*—(1) *Lungs.*—This is the most usual site of tubercular disease occurring simultaneously with caries. It is difficult to say in any given case whether the pulmonary tuberculosis is independent of, or secondary to the spinal disease. The history may often help, and, I think, the determination is of some importance as affecting the prognosis, since a secondary condition, indicating a systemic infection, presents a more serious aspect than that due to a double tubercular trouble.

In the following case the history pointed to an infection of the lung superimposed on the spinal disease, and thus enabled a fair prognosis to be given, which was later justified by the progress.

Case 26.—L. K—, seen for the first time at the age of 7 years. She had been treated when two years old for spinal caries; for the last three years had had no treatment, and had no pain or trouble with walking. Six months ago the mother died of phthisis in the house, and since her death patient had been wasting and deteriorating in health. On examination, a prominent curvature of the lower five to six dorsal spines was present, measuring 7 in. across. There was no tenderness, no pain on walking, or jarring movements on the spine, and no rise of temperature. Impairment of resonance was present at the left base, and the breath sounds accompanied by frictions and moist râles in this region.

The case was judged to be pulmonary tuberculosis, probably contracted from the mother, and no idea of recrudescence of the spinal disease, which was believed to be cured, was entertained. The patient accordingly received sanatorium treatment, cure being believed possible, and she is now improving.

When, on the other hand, phthisis intervenes on an active disease, the prognosis is, of course, very bad, and the possibility of rapid death by tubercular meningitis strong.

(2) *Glands* are the next commonest seat of concomitant tubercular infection. They may become infected secondarily through the blood or by direct contact with the primary focus, the latter being commonly seen in the glands from cervical caries where frequently it is for some time the only apparent sign of the true disease.

Case 20.—Thus, I. N—, aged 3 years, was brought to the hospital for a discharging sinus and mass of glands, and inflammatory tissue of the neck. Rigidity of the neck was naturally present from the disease of the soft tissues, but not till a year later, when angular curvature in the cervical region began to be apparent, did the true nature of the case reveal itself.

Torticollis falls under this heading, being simply a symptom of the spasmodic contraction of the muscles of the neck from the irritation of the surrounding inflammation. As with pulmonary tuberculosis, adenitis may also occur independently, being simply a fresh infection excited possibly by simple inflammation due to the pressure of adenoids, decayed teeth, etc., in a subject of tubercular diathesis.

Thus, B. G—, aged 5 years, was admitted with a slight, simple, spinal caries; nothing else adnormal was noticed, excepting the presence of adenoids which were not removed. Six weeks after admission she developed a nasal catarrh accompanied by adenitis, which persisted after cessation of the catarrh. I think this case shows the desirability of removing all possible sources of inflammation of glands in tuberculous children.

(3) *Concomitant joint and bone affections* occur fairly frequently. The hip is the region most often affected and is the most important joint in this connection, as its presence may be marked by the existence of a psoas abscess due to caries. Hip disease was present in four of my twenty-eight cases; the treatment for the two conditions being practically identical, this complication does not offer any great difficulty.

(*c*) *Sepsis* accompanying tuberculosis, in any region, is a powerful factor in maintaining the presence and extension of the disease.

Its intervention in a tubercular wound is revealed by the temperature, there being rarely any rise of temperature accompanying a pure tubercular abscess.

E. W— had a psoas abscess pointing in the thigh which was incised and scraped; the wound healed well, the temperature being normal throughout. Six months later she returned with a fresh collection of pus beneath the old wound, which was again incised and scraped, the temperature chart still showing a normal line. One year later she came again with a sinus in the old wound, discharging pus and showing signs of surrounding inflammation; the temperature was now for the first time hectic in type, as shown by accompanying chart.

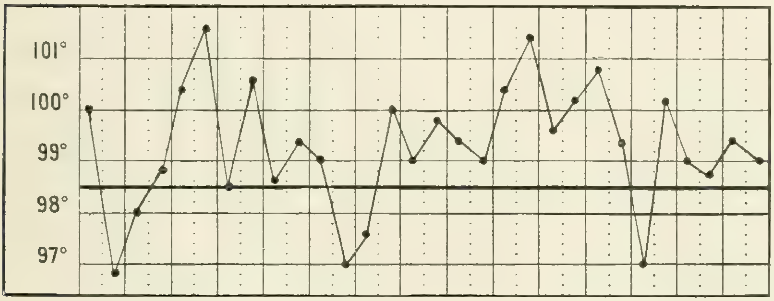
Under antiseptic treatment the septic nature of the wound was mitigated, and the temperature fell to a normal level, but whereas before the intervention of sepsis the wound had always healed up, it now failed to do so under simple surgical measures, and remained for a considerable period of time as a chronic discharging tubercular wound.

(*d*) *Pressure on the spinal cord.*—Cases complicated with paraplegia are more interesting from the point of view of treatment than from that of any clinical phenomena. The most important point to be remembered is that caries is by far the commonest cause of paraplegia in children, and that, like all the other accompaniments of caries, it may be the first sign of the disease to appear.

Case 28.—Thus S. W— presented herself with an abscess over the third, fourth, and fifth dorsal spines; there was surrounding impetigo of the skin, and on incision of the abscess the pus was not characteristic of tubercle and no affection of the bone was seen, so that the cause of the abscess was thought to be septic infection from the skin, and the possibility of caries considered unlikely. The wound healed, leaving a minute sinus, which did not lead to bone.

The patient was not then seen for six months, when she returned with signs of paraplegia that had been gradually appearing for the last week. The wound was practically *in statu quo*; there was no development of deformity, but there was, at this time, a slight stiffness of the back in the upper dorsal region.

Chart 1.



Treatment.

The treatment of spinal caries may be classified under the following headings:

(*a*) Treatment by conservative methods
(*b*) Treatment by operative procedures.
  (1) Partial, dealing only with the presence of pus.
  (2) Radical, dealing with the removal of the disease.
  (3) In the later stages, to remove deformity.
(*c*) Vaccine treatment.

(*a*) *Treatment by conservative methods* may be briefly summed up in the word "rest," and this is the one necessary condition for the cure of cases coming under Classes I and II, *i. e.* the very early, and the ordinary uncomplicated cases. The routine custom which I have been in the habit of following is to keep every simple case in which active disease is diagnosed or suspected strictly supine, with an extension on each leg, a counter-extension applied to a chin-occipital band being added in cervical disease. The result of this has, in my experience, invariably been that the pain ceases within twenty-four hours; the patient is retained in the supine position for six weeks *after the last complaint of pain.*

It is perhaps unnecessary to state that no alteration in the size of the angle of curvature is ever seen or expected, although, possibly, the actual prominence may appear to be lessened by the correction of the tonic contraction of muscles round the seat of disease, which always tends to produce a certain amount of flexion at this spot.

The result, that is hoped for, is, on the contrary, a firm fixation of the pre-existing deformity.

At the end of six weeks, all acute symptoms being absent, a plaster-of-Paris Sayre's jacket is applied, with a jury mast incorporated in the layers, where the disease is cervical or upper dorsal.

I have found that by passing a bandage under the prominence and suspending the patient by it to a bar laid across the sides of the cot (as shown in the photograph) a convenient position is obtained, and any extra tendency to flexion caused by allowing the patient to stand up or assume any other position is prevented, while in addition a very gentle attempt towards reduction of the deformity is effected.

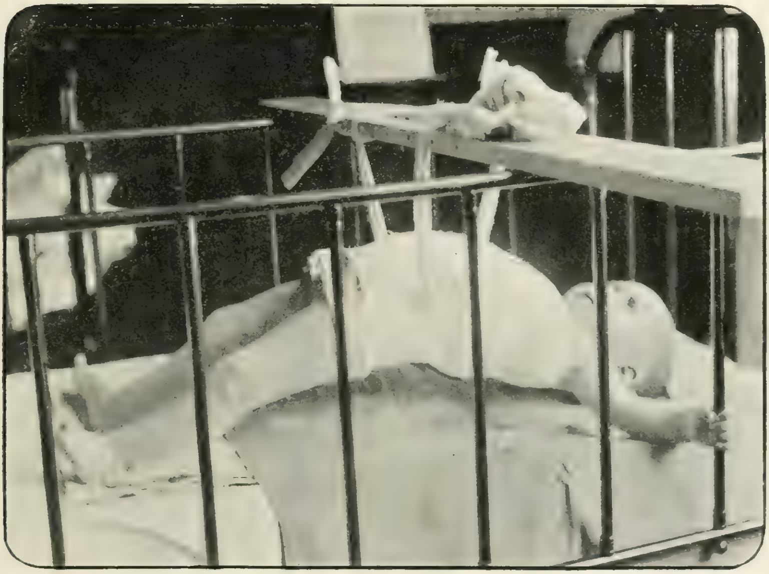
The main disadvantage of the plaster support in hospital patients is the frequency with which vermin generate beneath them, and where it has been impossible to combat satisfactorily this difficulty, a poroplastic jacket, which can be removed daily, may be used.

The patient should be advised to keep on his back for at least one year after the application of the support, and to undertake movement extremely sparingly for the following year, after which in most cases it will be found that the disease is cured, in so far as symptoms are concerned, though as mentioned above, a general deformity may remain.

In some cases so much weakness of the back is complained of, after cessation of all specific symptoms, that the patient is obliged to wear some form of spinal support to enable him to retain the erect posture. This, in the absence of other signs, is due to loss of tone in the spinal muscles, and should be met with by very judicious kneading of the muscles combined with a light support. Energetic massage may easily lead to a recrudescence of the disease, and, as in all stages of treatment, much patience must be employed before the patient can expect to attain a normal standard of health.

I have had the care, at various stages of the disease, of twelve simple cases of caries treated on these lines; four of these have been able to relinquish all supports during the latter two years, during which they have had no return of symptoms and may, therefore, reasonably be said to be "cured." Of one of these, H. C—, who first showed signs of the disease four years ago, I append the photograph, taken at the time of writing this paper, since it shows a fairly typical condition of the after-effects, the deformity remaining, but the child amply qualified to take his place as a useful member of society.

Fig. 1.



The other five cases are at the present time still undergoing the various stages of treatment, but are so far without exception treading the road to cure.

In cases where this line of treatment fails, indicating extension of active disease or the intervention of a complication, absolute rest must be insisted on for a longer period, according to circumstances, or further measures adopted.

In simple uncomplicated cases I have, however, seen nothing to resist this conservative method, where patience is enacted.

(*b*) *Operative procedures.*—(1) Directed towards the presence of pus. It must always be remembered that efforts to remove pus aim at the removal of a symptom only, and must, therefore, always be combined with treatment for the cure of the disease itself.

A second point of great importance is that where a collection of tuberculous pus is to be removed it must be done under the strictest aseptic precautions, since the combination of septic with tubercular organisms in a wound or sinus gives rise to extreme difficulty in healing. An abscess should, therefore, always be surgically treated before any infection of the skin occurs.

The following two cases taken in comparison show the importance of this truth :

Case 13.—C. H—, aged 3 years, seen first in June, 1905, with a slight prominence of the last three dorsal vertebræ, and a mass about the size of a tennis ball, palpable deep down in the right iliac fossa. The latter, being a psoas abscess, was opened by an incision parallel to the outer half of Poupart, and was thoroughly scraped ; the wound was sewn up, and afterwards healed by first intention. The patient was then treated as an uncomplicated case, according to the rules above laid down, and now, more than a year later, he has had no return of symptoms.

In contrast to this, showing the disastrous influence of sepsis intervening :

Case 14.—D. O—, aged 4 years, when first seen showed a fluctuating tumour bulging in the groin, communicating with a second tumour bulging the inner surface of the thigh, the skin over the latter being tense and showing signs of commencing inflammation. The abscess was incised from the thigh, a counter-incision being made in the tenth intercostal space, the first incision, after a thorough scraping of the cavity, being stitched, and the latter drained by a tube, owing to the large size of the cavity. Both wounds were well healed at the end of two weeks, and a plaster jacket was applied. At the end of three weeks the patient was, contrary to custom, but at the solicitation of the parent, removed from the hospital and taken to the seaside. In the space of a month he returned with both wounds broken down, and discharging a thin pus, which yielded a growth of staphylococci on cultivation. The parent refused further treatment from the hospital, but rest in the supine position has been enforced under the indifferent hygenic conditions offered by his own home. I have just seen him again, fifteen months after the operation, and find him *in statu quo* ; each wound presents a sinus which discharges fairly freely, and there is some puffy swelling surrounding the angular deformity which gives a suspicion of active disease in the bone.

It may then justly be inferred from the consideration of these two cases that the detection of pus in whatever situation is the signal for its immediate removal aseptically.

Two more striking analogies could scarcely be found, the cases being in every way precisely similar, except that one was in a less advanced stage than the other.

The other of the minor surgical measures employed in the treatment of this disease are comprised in curetting chronic sinuses, the suitable time to choose to scrape any given case being a matter of experience.

(2) The radical operation for removal of the whole area of disease is performed through the medium of laminectomy. The spines and laminæ of the diseased vertebræ being removed (most conveniently in children by means of a Doyen's saw) the cord and posterior part of the bodies are exposed and the diseased part can be removed by a gouge, great care being exercised to avoid damaging the theca and thus giving an outlet for the escape of cerebro-spinal fluid.

I have assisted at the following three operations:

(1) J. C—, aged 6 years, had been treated privately for six months previously with a plaster jacket for a mid-dorsal angular curvature. He was brought to the hospital for paralysis and showed a condition of complete paraplegia with bladder and rectal symptoms. Conservative treatment was first tried, rest in bed with double extension being kept up for five months without improvement.

Laminectomy of the fifth and sixth dorsal vertebræ was then performed and extensive disease of the bodies of the same found. The wound failed to heal by first intention and a discharge of cerebro-spinal fluid occurred; the patient died a month later from meningitis.

At the autopsy an abscess cavity was found over the bodies of the fifth, sixth, seventh, and eighth dorsal vertebræ, containing much caseous material; the body of the fifth was completely eroded so that the continuity of the spine was lost, and on extending the trunk a wide gap appeared through which the finger could be passed. The brain showed miliary tuberculosis.

This case obviously shows the worst possible result of radical operation, since it must be inferred that tubercular meningitis was the direct result of the operation. It must, however, be remembered that in all probability the unfortunate occurrence of sepsis had enormously increased the virulence of the specific infection, since the extension of the disease that had occurred between the operation and the autopsy was out of all proportion to the interval of time elapsed. It is nevertheless doubtful if this fatal sequence can ever be absolutely guarded against since a case that fails to respond to conservative means indicates such active infection as may readily be conveyed to the general circulation or break through the continuity of the softened dura mater and infect the brain-matter through the cerebro-spinal fluid, under operative interference.

In the other two cases, both of which were also performed for relief of paraplegia, a condition of cure resulted, but in both cases granulation tissue, pressing on the cord only, was removed, and no pus or necrosed bone was found. It is very likely, however, that had conservative treatment been persisted in for a longer time the same end would have been attained.

It appears that in extremely active cases, the risks attendant on the radical operation render it for the most part unjustifiable, while in less urgent cases it is seldom a necessary procedure.

Thus it is an operation which should not enter much into the practice of the treatment of this disease.

(3) With regard to the operation of laminectomy for the purpose of reducing deformity, I consider it as only better in degree to the bloodless method of forcible reduction.

If removal of the deformity, in the late stages of quiescence of the trouble, is essential to the patient, no object can be gained by manipulating in the dark, which must always be an unsurgical measure; while after removal of the spines and laminæ the bodies can be forcibly straightened, and the cord be kept under the control of the surgeon. The wound may then be sewn up and the patient immediately fixed in plaster-of-Paris by the method detailed above.

There can, however, never, in any case of so-called "cure," be proof that there does not exist an old quiescent tubercular deposit, which may easily be lighted up into activity under this energetic manipulation.

Thus, again, the justifiability of the operation is extremely questionable and must be discussed on each individual case as it arises.

Vaccine treatment.—Sir Alfred Wright's method of the determination of opsonic indices has safe-guarded a treatment which proves itself of great value in carefully selected cases of this disease, although it should be understood that in nearly all cases its use should be an adjunct to one of the other forms of treatment described. In every case *rest* is essential, and it is, in many cases, wise to combine mild surgical measures with the injections of tuberculin.

Thus, where sinuses are present, it is reasonable to suppose that healing, under the influence of tubercular opsonins introduced into the blood, will be facilitated by the removal of the lining membranes by curetting, while, on the other hand, it is obviously unreasonable to expect that tuberculin can effect the absorption of a portion of necrosed bone, which in many cases is the cause of the persistence of a sinus. Again, it frequently happens that in a chronic tubercular sinus there is a mixed infection, so that the injection of tuberculin alone is insufficient. Therefore, it is best, where a sinus fails to respond to tuberculin treatment, and where irritation by dead bone is not suspected, to cultivate a growth from the pus, and if possible, to make a vaccine from the culture obtained and to inject it concomitantly with the tuberculin.

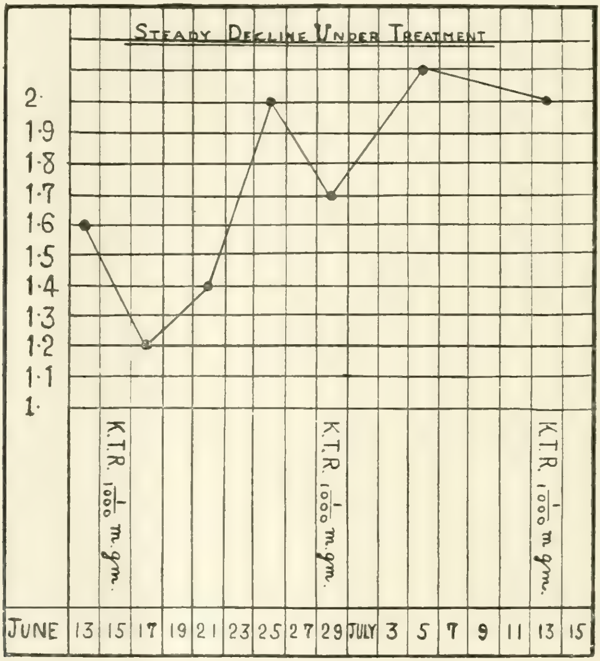
This method proved of great success in the following case:

Case 23.—W. A— had a sinus discharging in the groin. A psoas abscess had been opened formerly, aseptically, but subsequently the operation wound broke down and became septic. No diseased bone had ever been found on examination of the sinus. The sinus was scraped upon three occasions without success; injections of tuberculin were then given without affecting the morbid condition. The pus was then cultivated and a growth of *Staphylococci albi* found, from which a vaccine was made, according to the method prescribed by Bullock ('Practitioner,' 1905), and injected in doses of 250,000,000 every fortnight with the tuberculin. In two months the sinus was well healed and the patient in good general condition.

Out of seven cases treated by tuberculin inoculation I have only found complete satisfaction with healing of long-standing sinuses in two; in a third the general condition showed a marked improvement, though the local condition remained unchanged, while in the other four cases no effect from the treatment was noticed.

It is certain that there are few treatments, in medical science, that require so much individual selection of cases if satisfactory statistics are to be obtained, and it appears to me that the surgeon who relies solely on his opsonic chart for indications to inoculate will meet constantly with disappointment. Thus, in cases where the cause of a persistent sinus is the presence of a sequestrum, it must be unreasonable to suppose that tuberculin can effect its cure. On the other hand, if the sequestrum be surgically removed the tuberculin will most probably be a most valuable adjunct towards the final healing up of the sinus.

Again, the system of dosage entirely from opsonic curves, in any case, does not always seem justified by results. In illustration I quote two charts, one of which—C. E—, Case 24, showed a satisfactory curve under treatment, but the patient steadily declined in health ; the other—E. W—, Case 21, received doses according to her local condition, *i. e.* when the discharge from the sinus began to increase slightly the dose of $\frac{1}{1000}$ mgrm. K. T. R. was repeated, irrespective of the opsonic index.



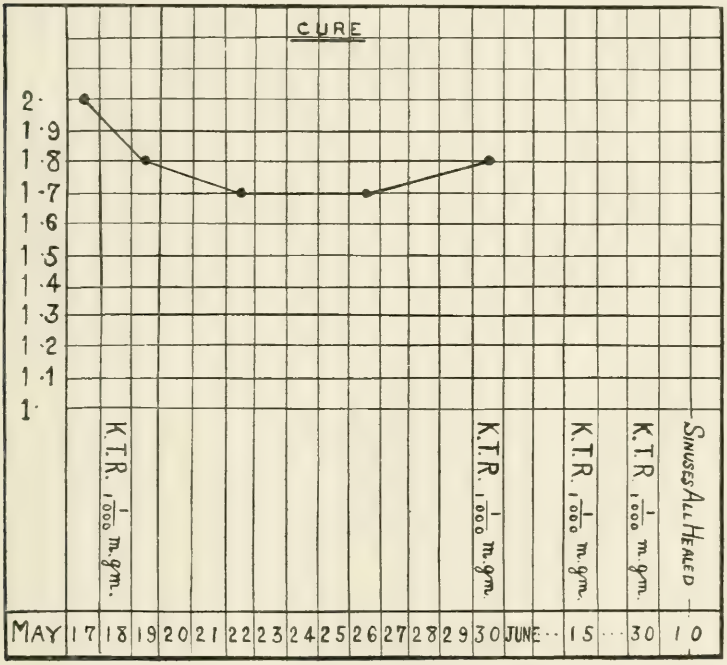
C. E—, Case 24.

This latter case was the one brilliant cure under tuberculin of my series, the child having had six months' treatment of mild surgical measures and immobilisation without improvement, while in two months' tuberculin treatment all the sinuses healed and the condition apparently cured.

I have neither seen nor read of any case in which harm has been done by inoculations of the small doses, which produce immunising responses without constitutional disturbance, and therefore, although it is, admittedly, of limited use in bone troubles, there is no reason why it should not have an extensive trial in all forms of this disease.

It is questionable, however, whether the amount of labour consequent on a systematic examination of the opsonic index meets with sufficient reward.

Besides the charts noted, I have seen a fairly large variety of charts of cases of various forms of tuberculosis, and have frequently been struck by the loss of conformity between satisfactory clinical and pathological results.



E. W—, Case 21.

In conclusion I may quote the words of Dr. Watson Cheyne: "In joint and bone diseases, where no operation would formerly or now have been considered necessary, by all means add the use of tuberculin to other methods employed. But blindly to convert the practitioner into an immunisator, as Professor Wright puts it, is, I believe, a totally retrograde step."

CONCLUSION.

I was led to compile these notes from the fact that being thrown amongst a number of cases of a disease which possessed a vast amount of interest from all points of view, I was confronted by a singular paucity of useful literature upon the subject.

There are, perhaps, few diseases that can give rise to more devastation in the lives of their victims that can, on the other hand, afford more complete satisfaction to the surgeon whose privilege it has been to undertake their cure.

I have, therefore, endeavoured to set down a classification of all the cases with which I have come into contact, and to indicate the most logical treatment suitable for each type and founded upon actual experience, in the hope that the practical knowledge gained by the experience might be useful and thus benefit surgical practice.

I have to offer my sincere thanks to the honorary surgical staff of the Victoria Hospital for Sick Children, Hull, for having given me opportunities for study and permission to write these notes.

A CASE OF MORBUS CORDIS.*

By T. R. Whipham, M.D.,
Physician to the Evelina Hospital for Sick Children.

The patient is a girl, aged 11 years, who is said to have been always delicate. Her father died from pulmonary hæmorrhage and her mother from paralysis. Two sisters are healthy.

Five years ago she had an attack of epistaxis, and for the last three years has had similar attacks at intervals of about three weeks. Previous to my seeing her there was no history of rheumatism or chorea.

She was brought to the Evelina Hospital in July last, having had three attacks of epistaxis during the previous four days, the last of which had been profuse. She was admitted on this account, and it was not till she was in bed that the cardiac murmur was discovered. The heart was considerably enlarged. A systolic murmur was audible all over the præcordium, but on changing from the recumbent to the sitting position it was most intense in the aortic area, being louder and rougher there than elsewhere. The thrill of the cardiac beat was also best marked in this region. The first sound at the apex was loud, and the second was either inaudible or replaced by a slight "whiffing" diastolic murmur. At the base a slight second sound was present. The pulse was regular and rather full.

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* Exhibited at The Society for the Study of Disease in Children, May the 3rd, 1907.

During the last two or three months the child has been laid up with a severe attack of rheumatic fever accompanied by profuse epistaxis. She is a well-grown girl, presenting no marked signs of cyanosis. The cheeks, it is true, show a certain purplish flush, but this is said to be a family characteristic and is to be seen in her elder sister. There is no clubbing of the fingers. The heart's apex beat is in the sixth space, a little outside the nipple line, and is readily visible. The impulse is wavy and rather forcible. A thrill is palpable at the apex and also at the base, especially in the second interspace just to the right of the sternum. The cardiac dulness extends well beyond the sternum on the right. When I examined the heart in the middle of the day, the patient being in bed, there was at the apex a loud first sound, followed by a well-marked systolic murmur, but no second sound, its place being taken by a more or less constant diastolic bruit of no great intensity. In the Society's room this diastolic murmur had changed to a presystolic and the cardiac cycle ended with the systolic murmur, which is heard all over the cardiac area and round to the back. At the base the systolic murmur is louder and rougher in character and culminates in the second interspace to the right of the sternum, a characteristic which was more marked a short time ago when the compensation was inadequate. The systolic bruit is also heard over the vessels in the neck, and markedly in the episternal notch. A curious feature about the case is that the second sound is everywhere almost entirely absent. It cannot be heard in the aortic area or at the apex, and in the pulmonary region it can only occasionally be detected as a faint click. The liver is not enlarged, and there is no œdema. The pulse is regular and of a fair volume. With regard to the blood it is interesting to note that the patient has polycythæmia, the greatest number of red corpuscles that has been found being 7,800,000 per c.mm. soon after she came under observation. She now has 5,670,000 red cells and 66 per cent. hæmoglobin in spite of her recent severe illness and hæmorrhage.

As to the diagnosis of the heart lesion in this case, I am inclined to think that there is mitral stenosis, and considering the intensity of the thrill and of the systolic murmur over the aortic area, and the absence of the second sound, that there is possibly a congenital lesion as well, perhaps a narrowing or coarctation of the aorta.

The Society for the Study of Disease in Children.

A MEETING was held at No. 11, Chandos Street, W., on Friday, May the 3rd, 1907, Dr. WHIPHAM in the chair.

A Case of Dextrocardia and Morbus Cordis, in a boy, aged 14 years, was shown by Dr. C. O. HAWTHORNE. The evidence was in favour of the view that the position of the heart was a congenital peculiarity, though transposition of the liver or other viscera could not be recognised. There was extension of the cardiac pulsation and dulness considerably beyond the right nipple line, and a systolic murmur, heard most distinctly in the region of the cardiac impulse, was conducted round the right side of the chest. On these facts it was argued that the case was one of true transposition of the heart, and not one of mere cardiac displacement. In such circumstances the ventricle placed to the right would be the systemic ventricle and would possess the mitral valve; hence mitral disease would produce a murmur (or murmurs) heard over the cardiac impulse and conducted towards the right —the facts, in short, which were present in this case. In consequence of the dyspnœa from which the lad suffered, it had not been possible to obtain a skiagram; this would have been of special value as showing whether the arch of the aorta, as might be expected in such a case, was on the right side.

A Case of Symmetrical Congenital Deformity of the Ears was also shown by Dr. HAWTHORNE. The auricle on each side was much distorted, and the external meatus absent. The child possessed some degree of hearing, showing, presumably, that the internal ear was of normal development.

Mr. RUSSELL HOWARD said there were two arches to the aorta, and he thought there was every reason for believing that, if the heart was on the right side, the right arch would persist instead of the left arch.

Dr. F. W. HIGGS agreed that there was a mitral lesion, and suggested that there might be also aortic stenosis.

A Case of Multiple Fractures was shown by Mr. HUGH LETT, in a baby, aged 7 months. She was a full-term child, and labour had been easy. The condition was noticed at birth, when all the bones were bent, with creases in the skin opposite the curves. There was evidence of old fracture in all the bones of the arms and legs, with some thickening due to callus; this was confirmed by X-ray examination. The bones had all united, but at an angle forming curves resembling those due to rickets. There was no fracture of the clavicles, scapulæ, or ribs. Hydrocephalus was present in mild degree. There was also evidence of rickets. The family history was excellent, longevity being marked. No history of fractures in any branch of the family, no history of syphilis. The mother had been in delicate health for eighteen months before the child was born, and had two bad falls during the seventh month of her pregnancy. There was one child living, aged 4½ years; he was strong and healthy, but two other children died when a year old from diarrhœa and vomiting.

A Case of Monoplegia due to Embolism of a Cortical Artery was shown by Dr. F. W. Higgs. The patient, a girl, aged 8 years, had chorea and rheumatism a year ago and developed mitral regurgitation. Five weeks ago complete paralysis of the left upper limb occurred during sleep. There was no paralysis of face, trunk, or leg muscles. There has since been some return of power in certain groups of muscles, the partial recovery having taken place in the following order: flexors of fingers, flexors of wrist, supraspinatus, flexors of elbow, extensors of fingers.

A Case of Subacute Arthritis was also shown by Dr. Higgs. A boy, aged 3 years, while convalescing from whooping-cough about two years ago, developed pains in certain joints, with swelling. The lesions had persisted in a subacute form, and at present there was peri-arthritis of the joints of the wrists, ankles, knees, and cervical vertebræ. Spleen and glands were not enlarged. The disease was evidently of toxæmic origin, either secondary to a very septic mouth or as a complication of pertussis, similar to that occurring in the gonococcal, pneumococcal and influenzal toxæmias.

Dr. Cautley questioned the diagnosis of embolism, owing to the rapid return of power in the limb; he suggested there was a local thrombosis with less complete destruction of function.

A Case of Cerebral Tumour after Operation was shown by Dr. Porter Parkinson. Craniotomy and incision of the dura mater had been performed with the hope of relieving symptoms. The result was that the headache, vomiting, and convulsions had been completely relieved, the sight had greatly improved, and the optic neuritis, previously very intense, had practically disappeared, while the weakness of the face and arm was less than before operation. The tumour was probably a glioma situated beneath the motor cortex.

Cases of Multiple Exostoses were shown by Dr. D. C. L. Fitzwilliams. A mother and two children, aged 10 and 12 years, affected with multiple exostoses, which were supposed to be hereditary. There were five other children in the family, all affected in the same way. One child presented, on different parts of the body, as many as thirty nodules in connection with the bones. Two of them had been removed, as they had grown rapidly during the last three months. None of the other children had been inconvenienced in any way. The children had all been breast-fed for upwards of twelve months. None presented any signs of rickets. The tumours were mostly of small size, and in most cases were situated in the neighbourhood of the epiphyseal lines. Many were present on the dorsum of the middle of the phalanges, and there was excessive bone-formation at the site of muscular attachments. The tumours were first noticed when the children were about a year old, and lost the fatness of babyhood. They did not grow after the first few years of life, with the exception of two that were removed.

Mr. Jaffrey had recently seen a case in which exostoses had increased in size during a period of eight years, and had caused paralysis by pressure on the spinal cord. One of these tumours was found to be covered with cartilage.

Erb's Paralysis of Left Arm in a Boy, aged 3 months was shown by Mr. P. Lockhart Mummery. There was a history of a difficult labour, and that the doctor dragged upon the arm during delivery. Apparently the posterior cords of the brachial plexus had been ruptured. Electrical tests showed that all the extensor muscles and most of the flexor muscles, with the exception of the flexor sublimis digitorum, were paralysed. As is not uncommonly found in these cases, there was considerable limitation of movement of the shoulder-joint on the paralysed side, due apparently to adhesions. Treatment was directed to preventing degeneration of the muscles by electrical applications, and preventing adhesions by massage and movements.

A Case of Morbus Cordis was shown by Dr. T. R. Whipham, in which there had been 7,800,000 red blood-corpuscles per c.mm. The patient was a girl, aged 11 years, who was subject to frequent attacks of epistaxis. The heart was much enlarged, and there was a thrill at the apex and at the base, especially over the aortic area. Pre-systolic and systolic murmurs were present at the apex, and the latter was loud and rough at the base, especially to the right of the sternum. The second sound occasionally could be heard in the pulmonary region, but only faintly; elsewhere it was entirely absent. There was no cyanosis or clubbing of the fingers. The patient had recently had acute rheumatism, but there was no history of a previous attack or of chorea prior to her first being seen. The diagnosis suggested was mitral stenosis and possibly a congenital narrowing or coarctation of the aorta.

A meeting of the above Society was held at 11, Chandos Street, on May the 17th.

The Wightman Lecture was delivered by Dr. Frederick Taylor.

Pneumonia in Children—The Wightman Lecture.

By Dr. Frederick Taylor.

(*Abstract.*)

After some introductory remarks on the origin of the lectureship and the choice of a subject, Dr. Taylor pointed out that a good deal of attention had been paid of late to the relative frequency of lobar pneumonia and broncho-pneumonia in children, and he proceeded to review the subject from this point of view. In the older writers there is rarely any description of lobular pneumonia or broncho-pneumonia apart from inflammation of the lung in general; and apparently for some time lobular collapse was constantly regarded as lobular pneumonia until the test of inflation was applied, and it became demonstrable that the collapsed areas were not masses of consolidation. Dr. Charles West, the author of the classical work on diseases of children, was so impressed by this that he thought lobular pneumonia to be, even in children, of very infrequent occurrence; and he insisted that this aggravated frequency of lobular pneumonia had led to an underrating of the importance of lobar pneumonia. The same feeling, namely, that lobar pneumonia in children has been under-estimated, has led in the last few years to some valuable articles in which the relative frequency of the two diseases has been recorded or discussed. Dr. Clive Rivière ('Lancet,' 1903) states that the greatest incidence of lobar pneumonia is in the second year of life, and out of 155 cases, found 20 in the first year, 46 in the second, 38 in the third, and 27 in the fourth. Dr. Vere Pearson ('Lancet,' 1903) also found croupous pneumonia more common in infancy than in any succeeding age of childhood. Dr. Bertram Abrahams, in 1904, regards it as a common affection from the age of two upwards, his experience with regard to the first two years of life being apparently different from that of the preceding writers. The figures given by Dr. Ashby ('Diseases of Children,' Ashby and Wright) also place the greatest incidence in annual periods later than the first two years; for out of 708 cases only 4 per cent. fell in the first two years of life together, 30 per cent. in the next three years, or an average of 10 per cent. each, and 47·7 per cent. in the next five years, or an average of 9·5 per cent. for each annual period. Dr. Lovett Morse, in Boston, also impressed with the ignorance of the profession as to the incidence of lobar pneumonia in children, found in nine years that fifty-eight cases occurred in infants in the first year of life, and sixty cases in those in the second year. No comparison was possible with children of greater ages, as the hospital is reserved for infants only. Other writers in previous years have given various estimates generally tending to place lobar pneumonia at later ages than the first two years. Dr. Taylor examined the records for one year in the clinical wards of Guy's Hospital, into which large numbers of children are admitted, and found thirty-five cases of broncho-pneumonia recorded, and twenty-eight of lobar pneumonia. Of the latter only one was as young as two years of age, and four were three years old. In the post-mortem records for one year (1905), of fifty cases of lobar pneumonia only seven were children, one in the first year of life, two in the second, and one in the third year.

Similar discrepancies exist with regard to the mortality of croupous pneumonia, which by most writers hitherto has been regarded as exceedingly small and not amounting to more than 1, 2, 4 or 5 per cent. But it is stated by others more recently to be as high as 25 and even 27 per cent. in each of the first two years of life.

The frequency of lobar pneumonia relative to that of broncho-pneumonia, has also been discussed, and different estimates have been given; lobar pneumonia is on all hands admitted to be less frequent, in proportions varying from 1 : 3 to 3 : 4, by those who have seen the largest numbers of lobar pneumonia patients.

These discrepancies are difficult to explain, but many things have to be considered; for instance, the relative numbers of children existing at different ages, varying conditions of admission into hospital, since these observations are almost entirely confined to hospital cases, possibly varying conditions of epidemic influence, especially in regard to lobar pneumonia. Naturally, the easiest way to account for differences in statements as to frequency of disease is to suppose errors of diagnosis on one or other side. Admittedly the diagnosis of lobar pneumonia from broncho-pneumonia presents difficulties. One places most faith in crisis as evidence of the former; another, however, observes that nearly half of his cases in the first two years of life recover without a crisis, and also notes that in the first year of life crisis is less common than in later life. Undoubtedly, also, in early life the pyrexia of lobar pneumonia oscillates more freely than it does in later years. It is well known that an extensive area of consolidated lung may be produced by an aggregated broncho-pneumonia. The position is further complicated by the fact that croupous pneumonia may occur in conjunction with broncho-pneumonia, and it is interesting that in nearly all the statistical statements above referred to no provision is made for this group. Little help in diagnosis has, so far, been obtained from bacteriology.

The conclusions seem to be that both in respect of the incidence and mortality of croupous pneumonia, and its frequency as compared with broncho-pneumonia, great differences may occur in different places and at different times; broncho-pneumonia is uncommon after three years of age; lobar pneumonia is more frequent in infants than has been the common belief in recent times; possibly it varies more with epidemic influence than broncho-pneumonia.

The lecturer then pointed out that if and when the mortality of infantile lobar pneumonia was so great as appeared from some statistics, the benefit conferred by diagnosis upon correct prognosis would be much less than often represented, and in each case the prognosis would have to depend upon its own special features.

Some recent observations upon leucocytosis in relation to prognosis were then considered, and the interesting observations by Dr. Nobécourt and Dr. Voisin upon the cerebral phenomena of pneumonia in children. These observers performed lumbar puncture in a number of children suffering from pneumonia, in some of whom no nervous symptoms were present, in others rigidity of the neck or limbs, convulsions, strabismus, twitchings, and other signs were present. The results were not very helpful, either as regards diagnosis or prognosis; the main fact seemed to be that the cerebro-spinal fluid was more abundant in the cases with meningeal symptoms, but neither cytological nor bacteriological results were pronounced in all cases. In two cases the cerebro-spinal fluid drawn off by lumbar puncture was turbid, contained polymorphonuclear cells and pneumococci, and in those two cases there was a purulent or semi-purulent œdema of the brain. Obviously more extended researches are required before this method of observation can be expected to be of much service.

The treatment of pneumonia in children has passed through the same phases as that of many other acute diseases. Even in Dr. Charles West's time the day of bleeding had almost past, though he, in his later editions, expressed the opinion that in properly selected cases it might be useful; the particular period, however, seems to have lasted a very short time. Then came the time of the antiphlogistic and depressant days, which are still commended by some writers of the present day. The recognised differences between lobar pneumonia and broncho-pneumonia suggest, however, that the former at least is likely to resemble other infections in its resistance to known drugs, and in the probability that only a bacteriological method of treatment, if any, will ultimately be successful. Little, if any, value has so far been effected, but on the Continent Römer's serum has had a trial; it is a polyvalent bactericidal, obtained from horses and cattle treated with various strains of pneumococci; but it is not obvious from present records that any decided diminution in the percentage-mortality of the disease has been effected. In recent American writings much stress is laid upon "ventilation" in the treatment of children's pneumonia, by which is meant open windows, free exposure of the patient to the air in any way, in marked contrast to the "tenting" and steam-kettles of recent times. Dr. Northrup records some interesting cases, but extensive trials are necessary to show that the results are an improvement.

Medicinally, in the case of broncho-pneumonia, at any rate, the treatment by familiar expectorants still seems rational and justifiable.

Editorial.

PROVINCIAL MEETING OF THE SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.

The Society for the Study of Disease in Children held its provincial meeting at Bedford on Saturday, June the 15th, a large and representative contingent of the London members of the Society and some well-known provincial members being present.

The proceedings opened at three o'clock at the County Hospital by a display of interesting cases, microscopical and pathological specimens, and numerous skiagraphs—in all some forty exhibits. The wards and domestic offices were thrown open for the inspection of the members and their visitors, who were impressed by the airy and well-lighted wards, by their workmanlike and unostentatious appearance, and by the scrupulous cleanliness that was a feature of the whole establishment.

Dr. C. O. Hawthorne opened the meeting by introducing a discussion on rheumatism. The reader of the paper gave a lucid exposition of accepted facts in relation to this disease; he drew attention to well-known clinical manifestations which are thought by some to be of rheumatic origin, and he reviewed other phenomena which might well originate in the rheumatic, or, indeed, in other persons. A prolonged discussion was followed by other communications. Some papers were crowded out owing to the length of time occupied by other communications taking precedence on the programme. This was unfortunate, as it is not likely to encourage would-be contributors, and it should not be allowed to happen at future provincial meetings. The management will either have to extend the time of the meeting, if subsequent proceedings permit it, or exercise their powers more stringently in regard to the time rule when they have a full programme before them.

Subsequently dinner was served at the Swan Hotel, and was well attended by the members and their guests.

The provincial meeting at Bedford was, without doubt, the best attended and the best arranged of the provincial meetings held by the Society.

The thanks of the Society are due to Dr. Henry Skelding, the provincial secretary, who was responsible for all the local arrangements, and he was ably assisted by Mr. Francis Jaffrey, the London secretary, who made a special visit to Bedford to help in assuring the success of the meeting.

Abstracts from Current Literature.

Medicine.

Salt-free diet in the treatment of scarlatina and acute nephritis (*'L'Echo Med. du Nord,' January*, 1907).—**Deléarde.**—The first indication in the treatment of infectious maladies is to facilitate the elimination by the natural paths of toxic substances, the result of the contest between the organisms and the microbes and their products. The kidneys are considered to be the best channel for this elimination. It is considered that the usual aliments contain sufficient salt for the needs of the organism, and any further addition is useless and perhaps dangerous. It has to be eliminated by the kidneys, and when these are affected there may be some retention of salt in the system. Milk contains 2½ to 3 grammes of salt per litre, and therefore necessitates the introduction of a large amount of salt daily in patients fed mostly on that diet. For this reason Dufour feeds his patients even in the acute stage of scarlet fever, on meat, fish, and vegetables, which contain much less salt, and reported 107 cases treated successfully in this way. The elimination of chlorides by the kidneys augments the work of those organs, and lessens their use in removing toxic substances which may be the cause of the various complications of scarlet fever. It has been shown how the œdema of Bright's disease disappears on a salt-free diet, owing to increased elimination from the kidneys, and this method applies equally to the treatment of acute nephritis. Deléarde quotes an example of this disease in a girl, aged 6 years, who had become very dropsical; on a diet of two eggs daily, with rice purée and potatoes with oil, the œdema rapidly diminished, and the albumin and casts disappeared from the urine, and the disease appeared to be completely cured. On the above grounds, the author strongly urges the use of a diet containing a diminished amount of salt in the above diseases. J. PORTER PARKINSON.

A study of infantile paralysis (*'Montreal Med. Journ.,' January*, 1907).—**A. Mackenzie Fosters.**—The epidemic in Gloucester gives us ample proof of the infectiousness of this disease. Head and Campbell consider the thrombosis of the vessels of the anterior cornua is secondary to an acute infection; but Batten shows that exactly similar changes in the nerve-elements may be due to obliteration of small vessels, and concludes that the thrombosis is primary, and may be the result of many and various forms of infection, and the lumbar region of the cord is more likely to be affected owing to the long course of the reinforcing arteries and the distance from the heart. In over 80 per cent. one or both of the lower extremities are involved. The muscles are stated to be affected in the following order of frequency: the peronei, the extensors of the toes, the quadriceps, the tibiales. The muscles which most frequently escape are the sartorius and the ilio-psoas. In the arm the order of frequency is the deltoid, the shoulder group, the biceps and supinators. The flexors of the hand are rarely involved. The sphincters also are seldom affected. After six months it is rare to find any improvement in untreated cases, but at this period much can be done by educating the patient to use the muscles which are not paralysed, for some of the loss of power is caused by disease and stretching of unaffected muscles. Tenotomy is most valuable. Tendon transplantation may be done in many ways, nine different methods being mentioned, the most useful being the following three: (1) The paralysed tendon is left undivided; the reinforcing tendon is completely severed, and its proximal end grafted into the paralytic tendon. (2) A slip is partially detached from the reinforcing tendon, and joined to the paralytic tendon, which is completely divided. (3) A slip is partly detached from the reinforcing tendon, and inserted into the paralytic tendon. Arthrodesis, or the denuding of a joint of its cartilage, may be done to correct a flail-like joint, or to correct a fixed deformity, or where a mobile joint is deformed at the seat of pressure. It is an operation of great value when performed at the ankle, but the knee-joint can be governed as well by apparatus that its use here is questionable. Fifteen or sixteen years is the age of election, that being a period of great plastic activity, and repair being quick and perfect. The statics of the lower limb are not much disturbed, and growth goes on under more nearly normal conditions, while the use of costly apparatus for many years is avoided. Nerve transplantation as a practical surgical procedure is most limited in usefulness at present. J. Porter Parkinson.

The care and feeding of premature infants (‘*Canada Pract.*,’ *March*, 1907).—**J. L. Morse.**—Few infants born before the twenty-eighth week of pregnancy survive, and hardly any whose weight is under two pounds, but each should be treated as if its chances were of the best. The premature baby is an undeveloped baby; it is intended to float in water of a constant temperature, and its circulation is compelled to change from the fœtal to the adult form months before it is ready for the change. It is compelled to breathe air into lungs only partially ready for use with an undeveloped thorax and respiratory muscles. It is obliged to use digestive organs only partially completed, instead of obtaining nourishment already prepared through the circulation. In short, it is not prepared for an independent existence. Some points are worth detailed consideration. The lungs are very prone to congestion and inflammation, owing to the loose attachment of the blood-vessels. The pulse and respiration are irregular in rhythm, partly from lack of nervous control, and partly because of the undeveloped condition of the organs concerned. The capacity of the stomach varies from 5 c.c. to 20 c.c., according to the age and size. The digestion of fat and proteid is especially deficient. They lose heat readily, and the heat-regulating centres are poorly developed. On account of the former they need more food, relatively, than a normal infant, though they are less well able to digest it; the maintenance of the animal heat and the provision of a suitable food; a padded crib, or basket, covered with a blanket to a little below the baby's neck. The temperature can be regulated by hot-water bottles, and should be maintained between 95° and 90° F. The baby should not be bathed, even at birth, but oiled with olive-oil every two or three days; it should be wrapped in absorbent cotton. The best food is human breast milk. If the infant is unable to suck, the milk must be taken with a breast-pump. If breast milk cannot be obtained, a modification of cow's milk must be made containing about 1–2 per cent. of fat, 3–5 per cent. of sugar, and 0·25–0·50 per cent. of proteid. It is best to give 5 c.c. at a feeding; if the baby is not satisfied this can be increased, but harm may be done by giving too much. It may be fed every hour and a half. Stimulants of drop doses of brandy, or strychnia ($\frac{1}{1000}$th of a gram), is often necessary for a long time. Of course, a trained nurse is always necessary.

J. Porter Parkinson.

Œsophagismus (essential spasm of the œsophagus) ('*La Pediatria*,' *November*, 1906, *p.* 838).—**P. Galli** describes the case of a robust male child who, when ten months old, had an illness (presumably typhoid) lasting fifty days, after which he had some slight difficulty in taking food for two or three days. When two years old, in the midst of health and without assignable cause, the dysphagia returned. This time it was complete: no solids could be swallowed; even liquids, after several noisy attempts, were ejected without force. Two days of absolute abstinence were passed, and the child, becoming emaciated, was taken to the hospital. No lesion or pathological condition was found externally. A probang could not be made to pass, no food was taken. The next day another futile attempt was made to pass the œsophageal sound, but towards evening the trouble ceased as if by magic and the child began to eat ravenously. The condition was evidently one of œsophageal spasm, of which three varieties exist—the symptomatic, the reflex, and the idiopathic. This case belongs to the last category, which depends on some disturbance of the ganglionic plexuses of Meissner and Auerbach.

Vincent Dickinson.

Pneumothorax and acute hæmoptysis in children ('*La Pediatria*,' *December*, 1906, *p.* 881).—**O. Cozzolino** describes these two cases which occurred in the children's clinic at Genoa. In the first there was a localised tubercular infection of the tracheo-bronchial and mesenteric glands in a girl, aged 28 months; tubercular infiltration of the left lung and pneumothorax of the same side. The author gives a tabular analysis of forty-one cases showing: (1) pneumothorax is very rare in children and is always secondary; tubercular pneumothorax is, in contra-distinction to adults, less frequent than all the other forms of pneumothorax taken together; only about 40 per cent. of cases of pneumothorax in children are tubercular, the majority of the cases being consecutive to abscess, gangrene, pulmonary infarct, traumatism, etc.; (2) diagnosis is often difficult either owing to the insidious onset or to the absence of important symptoms (amphoric breathing, metallic tinkling, etc.) or to the difficulty of obtaining them in a child that breathes badly. Some of these symptoms, moreover, may be met with in children having pulmonary cavities, pleurisy, or pneumonia; (3) the cause of infantile tubercular pneumothorax is either the rupture of a pulmonary cavity by progressive thinning of its walls, or the pressure on the lung exerted by masses of swollen caseous bronchial glands, or, more rarely, the rupture of an emphysematous vesicle. In the author's case there was perforation of a large tubercular cavity in the lower lobe of the left lung which could not be diagnosed during life; (4) prognosis is absolutely unfavourable, linked as it is with that of the causative disease which contributes to a fatal issue; (5) the most common site for perforation is the base of the left lung; (6) infantile pneumothorax, whether tubercular or not, is invariably total and rapidly becomes a pyopneumothorax. The second case described is a profuse and rapidly fatal hæmoptysis in a girl, aged 4½ years, affected with chronic miliary tuberculosis with bronchopneumonia and a cavity in the left apex. A tabular analysis of forty-eight cases occurring in children below the age of seven years is given which demonstrate that: (1) profuse and fatal hæmoptysis due to tubercle below seven years of age is extremely rare, and occurs only in advanced stages of the disease; (2) there is always a cavity of the lungs or of the tracheobronchial glands; (3) it is often of a fulminating type, without premonitory signs; (4) its extreme rarity is partly explained by the fact that tuberculosis of the lung in young children produces hepatisation and vascular occlusion rather than destruction of tissue and formation of vomicæ.

VINCENT DICKINSON.

The reaction of human milk (*'La Pediatria,' January*, 1907, *p.* 25). —**A. Ramacci** publishes the results of a very large number of analyses—160 in 55 women—made at the children's clinic at Parma: (1) The reaction of woman's milk is constantly alkaline and subject to variations; (2) the age, number of pregnancies, physical condition, etc., have no influence on it; (3) the age of the milk has no definite relation to its alkalinity; (4) it is unaffected by irregularity in nursing; (5) the food of the mother has no marked influence; (6) strong emotions and psychic disturbances have no influence; (7) there is no difference between the alkalinity of the milk from one breast and that of the other when examined at the same time; (8) after nursing there is a slight diminution in the alkalinity of the milk; (9) the alkalinity is greater in the morning than in the evening; (10) with regard to the menstrual period an increase in alkalinity is observed at its cessation, with a return to the normal after a few days. VINCENT DICKINSON.

Relapses in typhoid fever (*'Arch. of Pediat.,' vol.* XXIV, 1907, *p.* 1).—**H. Koplik** and **H. Heiman** regard relapses as more common in children than in adults, occurring in about 15 per cent. The usual duration is from one to two weeks. Temperature rises rapidly, remains continuously high for a time, and falls rapidly. The spleen is enlarged. Roseola is present in 75 per cent., leucopenia in 60 per cent, mild abdominal symptoms in 50 per cent. Complications are mild and infrequent. Mortality is extremely low. The results are based on a study of 24 relapses in 160 cases. Age varied from two and a half to fourteen years; males 13, females 11. There were four double relapses and one triple relapse. Henoch found relapses in 16·4 per cent. of 97 cases; Blackader noted 15 per cent. of 100 cases. Curschmann states that relapses are more likely to be frequent the younger the patient. Most observers regard persistent enlargement of the spleen as presumptive evidence that a relapse will supervene. Duration varied from six to thirty-seven days; average, thirteen days.

EDMUND CAUTLEY.

Paralysis of the sixth nerve, following influenza (*'Arch. of Pediat.,' vol.* XXIV, 1907, *p.* 18).—**A. S. Wilner.**—A girl, aged 9 years, had a mild attack of influenza, lasting about three days. Shortly after, she had extensive bronchitis, with acute otitis media on the third day. The fever persisted, and seven days later the child was heavy and drowsy. Next day there was internal squint of the right eye; slow, irregular pulse; prostration, somnolence, and anorexia. A diagnosis of tubercular meningitis or cerebellar abscess was suggested. Under expectant treatment recovery took place, and the squint finally disappeared after three months' duration. Influenza has a toxic effect on the nervous system, similar to that of diphtheria. It may also produce inflammatory and purulent manifestations through the bacteriemia. Mix classifies the nervous complications into five groups: (1) Prodromal stage: headache, neuralgia, delirium, coma. (2) In the course of the disease: inflammation of brain, cord or meninges; either toxic and degenerative or inflammatory and purulent. (3) During convalescence: functional neuralgias and myalgias, and organic neuritis; toxic in character. (4) Sequelæ: epilepsy, neurasthenia, hysteria; of toxic origin. (5) Psychoses: from simple mania to insanity, occurring at any period of the disease, but most frequently during convalescence. The present case is ascribed to a focal neuritis and belongs to the third group. There seems to be a predilection on the part of the poison for the different cranial nerves. The internal rectus of one or both eyes is the muscle most commonly affected, but every muscle of the eye may be involved. Cardiac disturbance was indicated by the slow, irregular pulse. It was probably due to a toxic and functional neurosis of the cardiac fibres of the pneumogastric nerve. Sudden death may occur from paralysis of cardiac or respiratory muscles. The somnolence was another characteristic feature not infrequent in influenza. It is usually accompanied by high fever, and appears early in the disease. Possibly it is due to the direct action of the microbes. EDMUND CAUTLEY.

Septic endocarditis, with recovery (*'Arch. of Pediat.,' vol.* XXIV, 1907, *p.* 24).—**W. C. Gardner** reports a case which recovered. The boy, aged 5 years, had an illness of one month's duration, characterised by a septic temperature, a recently developed cardiac murmur, and a markedly tender spleen. At the onset and for a week there was opisthotonos. The left knee was painful, tender, but not red or swollen. Injections of 10 c.c. of anti-streptococcic serum were given on three occasions. No cultures were made from the blood, and the murmur disappeared on recovery. A considerable number of recoveries have been recorded—viz., Herrick one, and twenty collected cases, in two of which a germ was cultivated from the blood. Ogle cites nineteen cases, with six recoveries, treated by anti-streptococcic serum. A positive culture from the blood is the strongest evidence in favour of the accuracy of diagnosis, but a negative result does not disprove it. In the discussion on this paper La Fétra drew attention to the importance of cultivating the specific organism, and using the serum appropriate to the type of streptococcus present. Boivard, jun., thought it impossible to draw a sharp line of demarcation between simple endocarditis with fever and malignant endocarditis. He had no great confidence in anti-streptococcic serum. EDMUND CAUTLEY.

Case of paralysis of the abducens nerve following influenza (*New York Acad. of Med., October* 11, 1906: *'Med. Record,' vol.* LXX, *p.* 760). —**Anna S. Wilner** described the case of a child (sex not stated), aged 9 years, who suffered from an ordinary attack of influenza. Otitis followed, and was accompanied by headache, stupor, and dizziness. At the same time the external rectus muscle was paralysed on the same side. This is exceptional, as the internal recti are more often affected in influenza. The heart also showed signs of being affected. Recovery ensued. ERNEST JONES.

Koplik's sign in a recent epidemic of measles (*New York Acad. of Med., May* 31, 1906 : '*Med. Record, vol.* LXX, *p.* 519).—**J. P. Eaton** reports an investigation of this point in a recent epidemic. Sixty-eight cases were observed in which the sign was present. Of these, in thirty-two the spots were observed from one to three days before the beginning of the rash, in twenty-eight cases during the rash, and in eight cases in which no rash was seen throughout. ERNEST JONES.

Hysteric contracture in children ('*Nouv. Iconogr. de la Salpêt.*,' *Ann.* XVIII ; '*Arch. Gen. de Med.*,' 1906, *p.* 2035).—**A. Broca** and **Herbinet** describe in detail six cases of this nature. The conditions were talipes valgus, torticollis, scoliosis, spastic paraplegia. They discuss the diagnosis and insist on its importance because of the successful results of suggestion in such cases. They point out that they often last longer than is usually supposed. Roux reported a case of hysteric scoliosis that lasted four years. It might too readily be assumed that a child who had suffered from this condition for so long must have some organic disease. Unfortunately, also, secondary mechanical changes are apt to supervene on the maintenance of a vicious position, and so further complicate the diagnosis.

ERNEST JONES.

The etiology of spasmus nutans ('*Charité-Annalen*,' 1906, *Bd.* XXX, *p.* 152 : '*Monatschr. f. Kinderheilk.*,' *Bd.* V, *p.* 199).—**H. Rietschal** gives a description of twenty cases. He affirms the independence of the condition from rickets, and supports Randnitz's view as to the etiology. In support of this stand the good effects of light and air in treatment.

ERNEST JONES.

Case of sudden blindness in a child ('*Charité-Annalen*,' 1906, *Bd.* XXX, *p.* 166 ; '*Monatschr. f. Kinderheilk.*,' *Bd.* V, *p.* 199).—**Hasenknopf** relates the following case. Lumbar puncture was done on a child, the pressure of whose spinal fluid was equal to that of 250 mm. Hg. Twenty cubic centimetres were withdrawn; it was not inflammatory. The operation was immediately followed by complete bilateral amaurosis. This was accompanied by headache, general hyperæsthesia, with paresis of the right arm and left leg. This soon recovered. Two months later the amaurosis recurred, and this time was accompanied by vomiting, hyperæsthesia, and abasia. The hysterical character of the affection was demonstrated. ERNEST JONES.

So-called congenital myxœdema with normal thyroid ('*Monatschr. f. Kinderheilk.*, 1906, *Bd.* V, *p.* 113).—**F. Siegert** (Cologne) publishes an important case of this nature. A few days after the boy's birth it was remarked that his tongue was large and protruding, the bridge of his nose depressed, his eyes small, his features bloated ; the child generally was flabby and apathetic. Soon appeared a pot belly and umbilical hernia. Sweat secretion ceased after the ninth month. At the twenty-fifth month the child could not walk alone, nor speak a word. No thyroid could be felt. At this period the diagnosis between athyroidismus and mongolism was fully considered, and with some difficulty settled in favour of the former. Brilliant results followed thyroid therapy, but after eighteen months of the treatment the boy died of broncho-pneumonia. Professor von Recklinghausen found the thyroid gland at the autopsy to be perfectly normal. Kassowitz, from the photographs and account of the case, diagnosed mongolism, and the author, who had previously recorded the case under the above title, now acquiesces in this view. He makes some interesting observations on the diagnosis and pathology of mongolism. ERNEST JONES.

Myohypotonia or myatonia congenita (*'Neurolog. Centralblatt.,' No.* 1, 1907).—**Bernhardt** reviews the cases hitherto published and reports three of his own. The disease was first described by Oppenheim, who drew attention to a peculiar condition, found in infants and very young children, in which the muscles presented a marked degree of hypotonia and the reflexes were either absent or very slight. To this he gave the name myatonia congenita. Spiller, who examined a case post-mortem, concluded that the primary change was in the muscles themselves, and that the nervous system was not involved. Bernhardt, on the other hand, maintains that the disease is an infantile form of multiple neuritis. His own cases were diagnosed as such, and they differed only in slight details from the published cases of myatonia congenita. Spiller's cases are open to the objection that some of the symptoms found were not characteristic of the disease as originally described by Oppenheim. T. R. WHIPHAM.

Tænia cucumerina (*'Medical Press,' March* 13, 1907).—**Pollak,** of Vienna, showed at the Gesellschaft a child, aged 6 months, who for the last four months had been passing daily small reddish-white bodies about 1 cm. long and 2 cm. broad, having the appearance of miniature gherkins. Microscopically these were found to be segments of the tænia cucumerina, which is often found in the alimentary canal of the dog and cat, but rarely in the human being. When five weeks old the child was taken on a visit to a friend, whose cat lay in the infant's bed. Three weeks later the first segment was passed, this time, according to Pollak, being the necessary period for the growth of the worm from the ovum. The presence of the parasite caused no untoward symptoms. The treatment proposed was: Kamala in 0·5 to 2-gramme doses, or, failing with this, ext. filicis maris, cautiously administered. T. R. WHIPHAM.

Chorea in children (*'Intercolonial Med. Journ. of Australasia,' February* 20, 1907) —**Jeffreys Wood** gives a useful summary of 223 cases of chorea treated during the last seven years at the Children's Hospital, Melbourne. Sex distribution was 154 girls and 69 boys. The youngest was aged 4 years: most of the cases were aged 6 and 15 years. In 18 per cent. there were definite histories of previous rheumatic fever. There was a marked tendency to relapses, one girl being admitted for her sixth attack. Forty-eight per cent. of the children left with definite cardiac lesion; mitral stenosis was rare. There were two deaths; one post-mortem showed endo-pericarditis, and the other recent pleuro-pericarditis. Rheumatic nodules were seen in one case; Wood has examined all cases of rheumatic fever and chorea, and has only found these nodules in six children during fifteen years. The disease is most prevalent from May to October, as is rheumatic fever. No case could be attributed to irritation. Children were often punished for being fidgety, a fate they would escape if medical inspection in schools was established in Melbourne [*ubique!*]. Treatment is absolute rest in bed until movements have ceased. Salicylates, aspirin, strychnine, antipyrin; arsenic, in increasing doses, or with large doses from the start, were all equally unsuccessful. Good nourishment, good nursing, with isolation and chloral in severe cases, are the author's recommendations. The 48 per cent.

of cardiac lesions agrees with Thayer's experience of 50 per cent. in 808 cases treated at the Johns Hopkins Hospital and Dispensary. Such results seem to emphasise Dr. Poynton's "Let us also try prevention." M. D. Eder.

A case of enlarged thyroid in a child, aged 2 months ('*Brazil Medico*,' *March* 1, 1907).—**Moncoroo Filho,** who was the first to recognise the presence of myxœdema in Brazil, maintains that a careful routine examination of the neck in all children will often lead one to detect alterations in the thyroid gland in many cases of general infection. In June, 1906, he saw a child, two months old, with an enlargement of the thyroid that had been slowly increasing. Both lobes were affected; the general health was excellent. The father had syphilis before marriage, which had taken place three years previously. The mother had been apparently always in good health. The first child, according to the history, died from an acute thyroiditis. The second child was the patient who was, like the first, born at full term. The only sign that could be attributed to hereditary syphilis was some slight enlargement of the cervical, axillary, and inguinal glands. There was a touch of exophthalmos. Mercurial inunction was prescribed, as well as iodides to the mother who was suckling the child. Unfortunately he had no opportunity of seeing the child a second time.

M. D. Eder.

Pathology.

Cirrhosis of the liver ('*Med. Press*,' *April* 10, 1907).—**Gruner** is reported as having recorded at the Vienna Gesellschaft the history of a young girl, who suffered from cirrhosis of the liver and an enlarged spleen. The child had been in the habit of drinking a quarter of a litre of beer daily. Death occurred from hæmatemesis thirty hours after the bursting of a varicose vein in the lower part of the œsophagus. The diagnosis was confirmed by a post-mortem examination. T. R. Whipham.

Tinea capitis ('*Med. Press*,' *April* 24, 1907).—**Jacquet** is quoted as opposing the view that this disease is contagious. According to him tinea is merely symptomatic of some irritation. Any local irritation, of whatever nature, can provoke ringworm in a predisposed individual. It may appear in the course of a well-defined malady, *e.g.* syphilis, or it may seemingly develop independently of any disturbance of the general health. In the latter case, however, there is almost always some morbid association to be found, such as circulatory disturbances, polyuria, hypophosphituria, albuminuria, seborrhœa, hyperhydrosis, or anhydrosis. None of these, however, would be sufficient to produce ringworm of themselves. Some form of local irritation is necessary, and this may be found in some dental lesion or the abnormal cutting of a tooth. According to this theory it is not necessary to apply antiseptics to the affected patch; all that is required is to attend to the patient's general health and to treat the local irritation which provoked the malady. Jacquet asserts that this treatment cures more rapidly and certainly than any other method. In favour of the neurotrophic theory of the disease he argues that he has made over one thousand attempts at inoculation under the most favourable conditions without succeeding in producing a single case of the disease. He is supported in his opinion by numerous French dermatologists, among whom may be mentioned Bresnier, Brocq, Jeanseline, and Leredde. In accordance with these views the Paris Board of Health has advised the Prefect of the Seine to rescind the regulation concerning the isolation of affected school-children.

T. R. Whipham.

Iodophilia in scarlet fever (*'Zeitschr. für Heilk.,' No.* 11, 1906).—**Neutra** states that iodophilia is a constant and marked feature in scarlet fever. In normal blood, treated with iodine fumes or Lugol's solution, the leucocytes are but slightly affected, but in certain pathological conditions the iodine stains their protoplasm a brownish colour, while the nuclei remain comparatively pale. If this reaction is absent in the course of a fever, the affection is not scarlatina. An increase in the proportion of eosinophile cells, in addition to iodophilia, renders the diagnosis of scarlet fever nearly certain. A rapid disappearance of the iodophilia supports a favourable prognosis, and a well-marked and constant reaction is of grave import.

T. R. Whipham.

Transmission of Spirochæte pallida from mother to child (*'Deutsch. med. Zeit.,' No.* 19, 1907).—**Wersilowa** reports a case of triplets, of which one was a macerated fœtus, the second lived for a few hours, and the third for one day. The first two presented marked syphilitic signs, the palms of the hands and the soles of the feet, as well as other parts of the body, showing papules, while the second child had in addition a hard and enlarged spleen. The third child showed no morbid changes. The placenta, which was common, consisted of three parts, and was full of nodules. Spirochætes were obtained from the placenta, from the umbilicus and heart of the macerated fœtus, and from the papules, umbilicus, heart, lungs, and spleen of the second child. The mother showed no signs of syphilis. The author concludes that (1) the *Spirochæte pallida* is present in syphilitic processes, and also in the organs of new-born infants affected with hereditary syphilis; (2) the spirochæte may be transmitted from the mother through the placenta; (3) its presence in the placenta, cord, and organs of the fœtus is possible, even when the mother shows no sign of the disease. The *Spirochæte pallida* was found in fifty out of eighty cases of hereditary syphilis which were examined.

T. R. Whipham.

Anæmia infantum, pseudo-leukæmia of von Jaksch (*New York Acad. of Med., May* 31, 1906: *'Med. Record,' vol.* xx, *p.* 517).—**Henry Koplik** read an account of nine cases he had studied fully. Three of the cases ended fatally. The blood picture was unstable and variable, being a severe anæmia in subjects who had disturbances of the functions of the blood-forming organs, causing a regression to the fœtal condition. The clinical features were characteristic, but there was nothing specific in the post-mortem findings.

Ernest Jones.

Case of chronic lymphocytic leukæmia in an infant (*'Münchener Gesellschaft f. Kinderheilk.,' June* 21, 1906, *'Monatschr. f. Kinderheilk.,' Bd.* v, *p.* 207).—**Meunacher** narrated the details of the following case: A child, sex not stated, was well till its sixth month, and then incurred otitis, bronchitis, and constipation. The general condition got worse, and when ten months old it was brought to the hospital for petechiæ. These were numerous. There was also diffuse bronchitis, double perforative otitis, great swelling of the lymph glands, and enormous enlargement of the spleen.

The average blood count was as follows: hæmoglobin, 40 per cent; red corpuscles, 4,900,000; white corpuscles, 258,000; normoblasts, 20,000. The differential count gave polymorphonuclear cells, 20·66 per cent.; small lymphocytes, 58·58 per cent.; large lymphocytes, 15·86 per cent.; mononuclear neutrophilic leucocytes, 4·14 per cent.; eosinophiles, 0·47 per cent.; mast cells, 0·28 per cent. The child died of bronchiolitis a month later. At the autopsy the spleen was found to weigh 400 grms., the lymph glands were all enlarged, and the diaphyseal marrow was lymphoid. Microscopically the chief splenic changes were marked connective-tissue induration at the expense of the pulp and lymphatic tissue; the pulp was characterised by absence of erythrocytes, with discretely appearing erythroblasts and eosinophile cells; the lymphocytes, on the other hand, were enormously increased. In the bone marrow the fatty tissue had almost disappeared, but the reticulum was increased. Of cellular elements, there were sparse bone marrow, giant cells, relatively few myelocytes, but it was the small lymphocytes that predominated. In the liver were large lymphomata around the portal vessels.

ERNEST JONES.

Icterus neonatorum (‘*Gaz. Med. Ital.*,’ *March*, 1907, *No.* 13, *p.* 127).—**Knöpfelmacher** attacks the theory hitherto accepted that this disease has some connection with the destruction of erythrocytes after birth. He is also against Quinke's belief that it might be ascribed to the re-absorption of some of the bile-elements in the meconium. Against these hypotheses he advances the following observations and experiments: (1) The withdrawal of the meconium from the intestine immediately after birth by repeated enemata has no influence on the jaundice; moreover, the intensity of the jaundice increases when the spontaneous evacuation of meconium has ceased two or three days. (2) As stated by Keher, those fœtuses which expel meconium during birth may also become icteric. (3) Quinke's hypothesis erroneously assumes that the re-absorption of bile-pigment is not effected by the chyle-ducts, but by the blood-vessels, which is untenable. The author examined the livers of forty-three children, staining the sections by Eppinger's method, and comes to the conclusion that icterus due to stasis must be excluded. Want of viscosity of the bile, and a dilatation of the biliary capillaries, met with histologically in infants who have lived two to four days, lead to the conclusion that the production of bile is increased immediately after birth. This increase of bile production is caused by alterations in the blood circulation during birth. Icterus neonatorum is thus an anomaly of secretion of the hepatic cells, which is connected with the increase in the production of bile immediately after birth. The fresh formation of bile is with difficulty got rid of, since a rather thick bile already exists in the biliary passages. The hepatic cell does not exercise the mechanical pressure to send the bile into the bile-ducts, and thus to leave a place for that which is newly formed; consequently, bile passes from the hepatic cell into the blood and lymph channels, and so jaundice ensues.

VINCENT DICKINSON.

The relative opsonic power of the mother's blood-serum and milk (‘*Brit. Med. Journ.*,’ *April* 13, 1907).—**Turton** and **Appleton**, in investigating this subject, estimated the opsonic index to the tubercle bacillus and to the *Staphylococcus pyogenes aureus* of (1) the mother's blood-serum, (2) the mother's milk, (3) the blood-serum of healthy cows, (4) the same cow's milk, and (5) the ordinary domestic milk supplied by the dairy company.

The results obtained are of considerable interest. The opsonic power of the mother's blood-serum for both the tubercle bacillus and the *Staphylococcus pyogenes aureus* was found to be within the normal range, that of milk from the same source very low, averaging 0·077 for the tubercle bacillus and 0·11 for the *Staphylococcus pyogenes aureus*. The cow's blood-serum would appear to have about half the opsonic power of human blood, an average of 0·49 for the tubercle bacillus and rather more, viz. 0·71, for the *Staphylococcus pyogenes aureus*. Again, they found that the opsonic power of the child's blood is very much less than that of the mother, and the authors question whether any absorption of opsonins can take place from the mother's milk. James Burnet (Edinburgh).

Chloroma in a child (*'Brit. Med. Journ.,' April* 20, 1907).—**T. Harrison Butler** describes the case of a girl, aged 11 years, who was admitted to hospital suffering from exophthalmos. She had previously been seen by a medical man, who found the urine loaded with albumin. There was marked proptosis of the right eye and marked exophthalmos on the left side. There was also enormous engorgement of the conjunctival vessels in the upper *cul-de-sac* on each side, that on the right being more intense. Optic neuritis was present on both sides. Retinal hæmorrhages were noticed at the outer and upper aspect of each disc. Each temporal fossa was bulged out by a semi-fluctuating swelling, which became harder as the temporal muscle was passed, and merging into the bone above. The skin was yellow and waxy. The chest and abdomen were found to be normal. The urine contained neither sugar nor albumin. There was marked leucocytosis. A differential count gave polymorphs 2 per cent., large lymphocytes 69 per cent., large mononuclear cells 14·8 per cent., small lymphocytes 14·2 per cent. Eosinophiles and mastzellen were absent. Three weeks after admission the spleen could just be felt, and small glands appeared in the axilla, neck, and groin. Purpuric spots appeared under the skin of the right buttock and thigh, and the gums were bleeding. Deafness was complained of on the right side. Shortly afterwards a sudden and alarming hæmorrhage took place from the orbit, after which the proptosis of the right eye greatly increased. The patient thereafter became somnolent, and eventually dyspnœic and comatose. Death supervened two months after admission. Post-mortem examination revealed a large, flat growth on the inner aspect of the sternum. This growth was pale olive-green, and situated under the periosteum. A similar growth was found invading the apices of the lungs. The spine, ovaries, right orbit, and right lachrymal gland displayed the same kind of tumour mass. So, too, in the right temporal fossa, along the sagittal and coronal sutures, and on right half of occipital bone, olive-green tumours were detected, as well as in the right lateral and right cavernous sinus. The thyroid gland was enlarged, but not infiltrated with growth. A report by Dr. Branson states that "the growth is a round-celled sarcoma, with an unusually well-marked stroma. At one spot it may be seen infiltrating the dura mater. The ovary shows a diffuse infiltration of the ovarian tissue, with round-celled sarcoma." James Burnet (Edinburgh).

Therapeutics.

Cod-liver oil (*'La Clin. Infant.,' February,* 1907, *No.* 4, *p.* 104).—**G. Pouchet** publishes an interesting study on this substance. Three kinds are distinguished. The virgin oil, which runs from the fresh livers, is pale yellow, having little smell; it solidifies about −15°, and its acidity is very feeble. The amber-coloured oil is obtained from livers having undergone a kind of auto-digestion which has set free the biliary matters to which the colour is due. Its smell is more pronounced without being disagreeable, its acidity is more marked, and it is more soluble in alcohol than the virgin oil. The brown oil is not fit for therapeutic use; its odour and taste are nauseous. It contains a large proportion of products of putrefaction, and its acidity and solubility in alcohol increase with the degree of colouration. The amber oil possesses the greatest richness in medicaments—phosphorus, iodine, bromine, sulphur, iron, and alkaloids. The action of the more highly coloured oils, however, is more energetic, and this is attributable to the presence of a larger proportion of biliary substances and products of putrefaction. To be more exact, all the kinds are equally efficacious when they are well tolerated by the digestive system and well assimilated. In a suitably prepared specimen the fatty matter extracted from the hepatic cells involves in its dissolution a large proportion of the products of auto-digestion and acidification of the livers. A true autolysis occurs which ought not to go as far as putrefaction, and produces liquefaction of the covering of the hepatic cellules, and allows the fat to absorb the biliary matters and dissolve the alkaloids which gives the oil its special therapeutic character. We have a phenomenon comparable to that of lactic and butyric acidification of flesh after death and before the onset of processes of putrid fermentation which occur later. Besides fat, cod-liver oil contains compound ammonias (methyl, propyl, butyl, amyl, hexyl-amines), quaternary ammonias (cholines, neurines, and betaïnes), bases of the pyridic series (notably dihydrolutidine), special alkaloids (aselline and morrhuine), a particular acid (morrhuic acid), lecithines, and indeterminate organic compounds rich in sulphur, phosphorus, iodine, bromine, and iron. The compound ammonias and the pyridic bases are stimulant, antispasmodic, diuretic, and stimulate the phenomena of nutrition. But these properties are manifested with much greater intensity under the influence of the special alkaloids, aselline and morrhuine, the latter being remarkable for the hypersecretion by the different emunctories that it produces, and for the increased activity it causes in the elimination of waste products. Morrhuine is the most important, both as regards quantity and action, and to it are attributed appetising, diuretic, and diaphoretic properties, and especially its efficacy in chronic rheumatism. By their glycero-phosphoric acid the lecithines secure the intervention of phosphorus as a histogenetic agent, inducing rapid and immediate diminution of its elimination. The fatty bodies are eminently assimilable by reason of the slight acidity of the oil as well as by their admixture with hepatic ferments and other substances which favour their emulsion. From these chemical facts it is easy to understand that substitutes, such as fatty mixtures, other oils, animal or vegetable, or such preparations as syrup of iodide of starch, are not capable of replacing cod-liver oil or affording the same therapeutic results. Vincent Dickinson.

Cocoa as a food for young children ('*La Clin. Infant.*,' *February*, 1907, *No.* 3, *p.* 65).—**G. Variot** considers that this substance, which is rich in fat, in oxalic acid, and in theobromine, has taken an excessive place in the food of childhood, and should only be used as a sweetmeat or rare occasions. The principal troubles which ensue from its prolonged and habitual use are obstinate constipation, diminution of appetite, nervousness, anæmia, and wasting. Vincent Dickinson.

Butter-milk fever (*'La Presse Med.,' February*, 1907, *No.* 13, *p.* 100). —**A. Romme** reviews the recent observations of Tugendreich and Rivet on this subject. The former drew attention to the fever sometimes caused by butter-milk in dyspeptic infants. Of variable duration, and showing itself sometimes by a single rise of temperature, it is usually accompanied by little marked general symptoms, and presents this peculiarity, that it ceases immediately the butter-milk is withheld. He considered it a manifestation of a kind of intoxication by a heterogeneous albumin. Rivet attributes butter-milk fever to the incidents which sometimes mark the resumption of feeding after an attack of acute gastro-enteritis. In these cases there is diarrhœa, fever, and a certain number of acute infectious symptoms. A watery diet for twenty-four or forty-eight hours, with lavage of the intestines and stomach and tepid or cool sponging, produces amelioration of all these, and the temperature falls, resuming the normal after a few days of dieting with starchy foods and vegetable broth. But when butter-milk is given at the commencement of the acute stage to take advantage of its supposed specific properties, fever ensues, which is only abated by leaving off the butter-milk. It follows from these facts that butter-milk should not be administered during the febrile period, but only after it has ceased under a *régime* of starchy food. When this rule is adhered to butter-milk is well tolerated, or merely occasions a slight, transitory, and unimportant rise of temperature. VINCENT DICKINSON.

The medical treatment of congenital pyloric stenosis (*'Lancet,' March* 16, 1907).—**Sutherland**, in a contribution, refers to the medical treatment of this affection by means of dieting and gastric lavage, and gives detailed notes of the last three cases which he has treated successfully in this way. He maintains that as our knowledge and experience of the medical treatment advance there will be fewer and fewer cases in which surgical interference will be called for. The first sign of progress towards cure is cessation of the vomiting. This usually follows quickly after lavage and suitable feeding have been carried out. Then the bowels begin to act naturally. This is a very important sign of progress, for it is in such marked contrast to what occurs in untreated cases. After the medical treatment has been begun the bowels act two or three times a day without artificial stimulation, and the motions are larger and consist of fæcal matter. The stomach peristalsis gradually becomes less marked, and eventually passes off completely. The discomfort and constant whining of the infant also cease. The infant's nutrition improves. This is manifested by a healthier colour, increased activity of the limbs, and by a slow gain in weight. These infants cannot be fattened rapidly. Any attempt to secure this will probably end in disaster. A simple diet is best, and the less weighing of the child the better, especially if anxious relatives are about. Diarrhœa is a common complication in the course of treatment. It is due to the fact that the bowel is unused to the presence of food material, and so is easily irritated at first. Diarrhœa is always a serious symptom. Sutherland has not derived much benefit from the administration of anti-spasmodics, or of opium, even when pushed to their full physiological extent. Saline injections, however, he finds of great service in marasmic babies. From four to ten ounces of normal saline solution can be given daily, and will act as a restorative until the improvement of the pyloric function allows of the entrance of a sufficient amount of fluid into the system by the natural channel. Brandy is also of use as a stimulant. Inunctions of cod-liver oil may be of some value, but in the only case in which he employed it in this way it caused a skin eruption. JAMES BURNET (Edinburgh).

The vaccine treatment of tuberculosis in children (*'Brit. Med. Journ.,' April* 13, 1907).—**Clive Riviere** concludes, as the result of experience, that $\frac{1}{2000}$ mg. is an average adult dose of tuberculin. On the whole, he finds that children stand rather larger doses in proportion to their weight than adults. He commonly gives $\frac{1}{12000}$ to $\frac{1}{8000}$ mg. to a child of one year, $\frac{1}{4000}$ mg. at five years, and $\frac{1}{3000}$ mg. at ten or twelve years of age. It is always safer to begin with a comparatively small dose. He begins his cases with two examinations of the opsonic index—one before exercise and one after—to determine whether any auto-inoculation is taking place. He then injects, and examines the index twenty-four hours, seventy-two hours, one week, and two weeks afterwards to determine the negative and positive phases and their duration. If he considers the result satisfactory, he afterwards examines the index once weekly, or in some cases only once between the injections. His conclusions are: (1) That tuberculin is a most valuable remedy for localised tuberculosis. The improvement which takes place corresponds with an increase of opsonic power. (2) It is also of value in many cases of less localised infection, especially if nutrition is not greatly impaired. With marked wasting and general illness no good results, however, should be expected, yet even under such conditions tuberculin is sometimes the turning-point in a down-hill course. (3) Tuberculin cannot take the place of surgical procedures, but should be used in conjunction with these. Especially must caseous material, unless small in quantity, be removed, and this should be done at a time when the opsonic index is at a high level. On the other hand, many cases would escape the necessity for surgical measures if tuberculin were given sufficiently early. (4) The secondary infection usually lessens with improvement in the tuberculous process. (5) Tuberculin treatment should only be undertaken by those who have given it special study. The writer concludes this interesting paper by giving records of a series of clinical cases in which he has employed this form of treatment successfully. JAMES BURNET (Edinburgh).

The dosage of diphtheria antitoxin from an experimental standpoint (*New York Acad. of Med., February* 8, 1906: *'Med. Record,' vol.* LXX, *p.* 475).—**William H. Park** read an elaborate paper fully discussing this difficult question. His conclusions were based on theoretic considerations, and also on the results of extensive experience, both clinical and experimental. They were to the effect that it was demonstrable beyond doubt that the mortality was less with higher doses than with lower. The difference between 2000 and 3000 units was more marked than between 7000 and 8000, and was hardly appreciable between 10,000 and 12,000. He did not believe in the need of over 20,000 units, but had not seen bad results from the injection of even 50,000. In the discussion that followed there was unanimity of opinion on the subject. ERNEST JONES.

Modified wet-nursing (*'Arch. of Pediat.,' vol.* XXIV, 1907, *p.* 192).—**T. S. Westcott** recommends that when a wet-nurse is needed, but is not available, human milk should be obtained by the use of the breast-pump from a mother in her own home. The nurse should partially feed her baby. The milk should be delivered daily, and divided up into as many feeds as the sick infant takes in the twenty-four hours. Each feed can then be made up to the requisite amount by the addition of cow's milk, egg albumin, sugar, and water, according to the needs of the particular case.

EDMUND CAUTLEY.

Pharmacological investigation and clinical observations on digalen (digitox. sol. Cloetta) (*'Riv. di Clin. Pediat.,' vol.* IV, *No.* 3, 1907).—**Dotti.**—The first part of this paper consists of a report on some experiments carried out on frogs, rabbits, dogs, and a fox by Dotti. It is illustrated by the usual heart tracings, and the conclusion arrived at is that digalen is similar in action, in these animals, to crystallised digitoxine. It had no cumulative effects nor action on the kidney when given to a rabbit during seven days in quantities of one third the fatal dose. The second part contains the clinical histories of sixteen children to whom the drug was given. The cases were pneumonia, broncho-pneumonia, pleurisy, cardiac affections, and diphtheria, and were all severe. The conclusions of the author are: The dose is from 1 to 2 c.c. in the twenty-four hours. It is best given by the mouth in small doses, frequently repeated. In every case there is a diminution in the frequency of the pulse and of the temperature. There was no marked increase in the blood-pressure. There was an increase in the quantity of the urine. The renal condition, when nephritis or albuminuria was present, remained unaltered. In some cases there was a marked reduction in the cardiac and in the hepatic enlargements. Digalen is indicated in cases of acute diphtheritic myocarditis. [The doses given seem rather high compared with the maximum advised by Cloetta as 4 c.c. in twenty-four hours for adults.]

M. D. EDER.

Otology, Laryngology and Rhinology.

Laryngeal papillomata in children (*'Arch. Internat. de Laryngol., d'Otol., et de Rhinol.,' tome* XXII, *No.* 1, *p.* 187, 1906).—**Vignard** and **Sargnon** point out the great importance of direct examination by Killian's method in children under five, for laryngoscopy is then often impossible. Killian's method is very difficult when dyspnœa is severe, in which case it is advisable first to perform tracheotomy and later to examine and remove the growths by Killian's method. The direct examination of the larynx, trachea, and bronchi by this method constitutes a thoroughly practical means of diagnosis and treatment of these regions in children, and diminishes the indications for more severe operations by the external route. The authors describe a case of multiple papillomata in a boy aged 4 years, which bears out these contentions.

HAROLD BARWELL.

Surgery.

Laminectomy for tuberculosis of the spine (*'Ann. of Surgery,' February*, 1907).—**Young**, at the Philadelphia Academy of Surgery on November 5th, 1906, showed a girl, aged 14 years, on whom he had performed the above operation. On February 7th, 1902, she fell on the ice and struck the dorsal region against a step. Two months after the accident she was sent to the Orthopædic Hospital and a brace was applied. In the spring of 1903 she began to have loss of power in the lower limbs. Her condition was one that progressed steadily and got worse, with slight intervals of improvement. The eighth, ninth, and tenth vertebræ were involved, there was marked kyphosis, and paraplegia came on early, and was intermittent, but steadily getting worse. Fourteen months before the operation her limbs became spastic, and she had exaggerated knee-jerks, marked ankle clonus, and Babinsky reflexes on both sides, with, at times, crossed reflexes. There was still some motor power. The following month (November, 1904) she could walk around the bed, holding on for support, but rather awkwardly. One week later she could walk alone and there was great improvement. She again relapsed. After this, and in April, 1905, she was completely paralysed, and there was slight incontinence. In July, 1905, there was complete motor paralysis, with slight incontinence, which increased until, at the time of the operation, there was complete incontinence and complete motor and sensory paralysis. On January 19th, 1906, an incision, five inches long, was made from the third to the eleventh vertebra, the spinous processes of the ninth and tenth vertebra were removed, and the lamina of the ninth vertebra was removed. An abscess was found beneath this on the right side, which was opened and drained. On February 26th sensation was present in the lower extremities of both sides, though slightly delayed. The patellar reflexes were increased, ankle clonus, and Babinsky reflexes were present on both sides. Thermal sensation was diminished. She was treated with electricity and massage, and sent to the seashore. The motor powers had gradually improved, the abscess had closed, and, when shown at the meeting, she was able to walk for a short distance unassisted, and had regained perfect control of the bladder and rectum. Two points are illustrated by this case—(1) the diagnosis of abscess by the intermission of symptoms, improvement, and relapses; (2) the possibility of recovery by means of the operation of laminectomy after complete loss of motion and sensation. Young regards this operation, under certain conditions, as a justifiable one, and he believes that for abscess pressing upon the cord, and for early spastic contractions of the extremities, the operation should be performed earlier than is customary.

J. Allan (Edinburgh).

Foreign body removed from left bronchus after having caused a purulent broncho-pneumonia (*'El Siglo Medico,' March 9, 1907*).—**Comdaired** reports the case of a boy, aged 7 years, who one year previously had swallowed a small piece of husk which had never been brought up. There was an immediate feeling of intense suffocation, followed by severe and incessant coughing. The following day the child was feverish. Ever since there had been fever and cough; frequent rigors and pains in the chest, especially in the left side, referred to the cardiac region. The sputum was at first sanguineous, then purulent, and finally extremely fœtid. A diagnosis of a large purulent abscess at the base of the left lung was made; this was confirmed by a radiogram, which, however, failed to show any foreign body. Accepting the history, bronchoscopy was performed. The greatest difficulty was experienced owing to the enormous quantity of fœtid pus, which actually gushed through the tube. After four or five minutes the flow ceased, and the instrument was about to be withdrawn because the child was not breathing well. Comdaired just then found the piece of husk stuck to the thick pus that was obstructing the visual end of the tube. The patient, aided by inhalations and good feeding, was soon perfectly well.

Thus the simple introduction of the tube was the means of draining the large abscess and so dislodging the foreign body. M. D. Eder.

A congenital meningocele and a congenital encephalocele successfully removed by the Perier-Berger operation (' *Brazil-Medico,' February* 15, 1907).—**Leite** reports (1) an operation he performed in 1902 on a case of congenital occipital meningocele. The child, a boy, was two months old; the tumour, quite small at birth (which was normal), increased daily in size. The growth was the size of a hen's egg, smooth, irreducible, very tense when the child cried; it communicated by a short, thick pedicle with the interior of the skull by a clean-cut circular opening in the median line. There were no other malformations. Two semi-lunar incisions down to bone were made around the tumour and the flaps dissected back. The pedicle was well freed, transfixed by a double-threaded needle, and the tumour ablated. The sac was very thin, and contained cerebro-spinal fluid. Recovery was uninterrupted. (2) In 1903, a girl, aged 3 years, came under Leite's care for a cerebral tumour. The birth had been normal; there was no other malformation; the parents and their three other children were perfectly healthy. The growth was noticed at birth; it at first grew slowly, and had subsequently remained stationary. The tumour was in the occipito-parietal region, at the level of the lambda, in the median line. It was round, the size of a small bergamot citron, and almost sessile. The skin over it was perfectly smooth and hairless. The tumour was irreducible, elastic, firm, and suggested a lipoma. Around the insignificant pedicle one could make out, on pressure, a slight depression which ran into the cranial cavity. The tumour was removed by the operation, described above; and the child was perfectly well in a few days. On section, the tumour resembled sclerotic tissue; there was a minute central cavity containing about three drops of a yellow liquid. The specimen was unfortunately lost before microscopic sections had been made to determine whether there was any nervous tissue present. M. D. Eder.

Hypertrophic stenosis of the pylorus (*'Arch. of Pediat.,' vol.* XXIV, 1907, *p.* 207).—**R. B. Kimball** and **F. Hartley** report a successful case of posterior gastro-enterostomy for the above affection, at the age of 8 weeks. The writers could only find records of three recoveries after operation in their country, and refer to Fisk's recent paper in which he collected seventy-one operative cases, with recovery in 53 per cent. The child was a girl, first-born, and breast-fed. From the first she regurgitated food too freely. Profuse vomiting began on the tenth day. Up to this time the stools had been normal. The vomiting continued, about three times in twenty-four hours. Regulation of breast-feeding, lavage, and modified cow's milk all proved useless, though temporarily beneficial. Condensed milk and weak barley-water were tried. Finally, everything was vomited, even hot water. Distinct peristalsis was only noted for the first time on the day of operation. Four ounces were obtained by lavage two hours after feeding, although the child had vomited in the interval. The typical pyloric condition was found at operation. Afterwards the child was much collapsed. The weight at birth was 7½ lb.; two weeks after operation, 7 lb. 12 oz.; at 9 months old, 15 lb. Edmund Cautley.

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Original Articles.

THE TREATMENT OF SOME COMMON TUBERCULOUS AFFECTIONS IN CHILDREN.

By Charles R. Keyser, F.R.C.S.Eng.,
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A very common lesion, which receives but little attention in text-books, and is rarely seen in hospitals except those devoted to the diseases of children, is what may be called "subcutaneous tuberculous focus." This rarely occurs in adults, but is frequently found in children. It consists of a deposit of tubercle in the subcutaneous tissue, and forms a small, firm, rounded mass, freely movable under the skin and on the deeper tissues. After a varying period of time the skin gradually becomes involved and reddened, and somewhat tender. A little later the swelling becomes completely adherent to the skin. By this time the tuberculous mass has usually softened and broken down, and fluctuation can often be obtained. If left untreated the skin ultimately gives way, and an unhealthy, tuberculous-looking sinus results.

These tuberculous masses may occur anywhere in the body, but are most common on the limbs. If seen for the first time after caseation has taken place they are usually called "chronic abscesses";

this is an exceedingly bad term, and could be abolished with advantage for reasons which will be given directly. These tuberculous deposits are not connected in any way with disease of bone, but occur in the subcutaneous tissue in a manner precisely similar to that in which a gumma forms in the same situation.

The diagnosis is quite easy, even when the mass is entirely free in the subcutaneous tissues, as new growths bearing any clinical resemblance are very rare in children. When the stage of caseation is reached a gumma is the only lesion for which the mass could be mistaken. These "foci" are often multiple, and different stages of softening can frequently be observed in the same patient at the same time.

Besides occurring in the subcutaneous tissue, these tuberculous deposits are also found in the deep cellular tissue. If a child is suffering from spinal caries, and a soft fluctuating tumour, either close to the spine, or in the loin, etc., is also present, a diagnosis of "chronic abscess" is readily made, the abscess depending on the bone disease. But there are many cases where a similar "abscess" can be found and no trace of bone disease is discovered even after operation. When this occurs, the remark commonly made is "that the disease of the bone is there, but the track leading from it into the abscess is so small that it cannot be found," or words to that effect.

Now, in a large number of these cases there is no bone disease, but the "abscess" is a tuberculous focus occurring in the deep cellular tissue, and should be treated in the same manner as in the subcutaneous variety. The treatment commonly adopted is that of an acute abscess, viz. incision and drainage—and this, I believe, is the result of calling the lesion an "abscess," although of a chronic type. To most people the word "abscess" means a "circumscribed collection of pus," and incision and evacuation of the pus is immediately called for. But in these so-called chronic abscesses *there is not a drop of true pus,* and, in my opinion, incision and drainage is quite the worst possible treatment which can, under ordinary circumstances, be adopted. How often does one see such a case as the following: A delicate looking child is admitted to hospital suffering from a "chronic abscess," in the loin; no spinal caries is detected. A whiff of gas is given, an incision made into the swelling, the contents more or less completely evacuated, and a drainage tube inserted. Two, three, or even four months later the child is still in hospital, the drainage tube is still in position, and the "abscess" is still discharging, but now the temperature is often irregular, rigors occur occasionally, the child's complexion is of a waxy-white colour, and even if hectic fever or lardaceous disease do not supervene the health of the child is seriously impaired for months, and sometimes years after, the wound having eventually closed. Sometimes it will not close and a permanent sinus results, or death occurs from disease of the kidneys, liver or intestine.

It is not to be supposed that all cases run such a course as described above, and rapid cures have been brought about by means of the simple incision and drainage, but they are not the rule. The reason of the changes—*e. g.* suppuration, hectic, lardaceous disease, etc.—after opening the "abscess," is because in nearly all cases, sooner or later (usually sooner), pyogenic organisms are admitted into the "abscess" cavity, and then true pus is formed. The important point to bear in mind is that before incision there is no pus, and such changes as hectic and lardaceous, etc., are never seen until the "abscess" has been opened, not even if the latter is as big as the classical case quoted by Erichsen, where a psoas abscess pointed by the side of the tendo Achillis.

Moreover, the temperature is not raised above normal until after the "abscess" has been opened.

The treatment to be adopted is incision and complete evacuation of all the contents of the cavity, most particular care being taken to remove all the semi-solid caseous masses, and to scrape away the so-called "pyogenic membrane." If the cavity is large, such as in a lumbar or psoas abscess, the scraping is combined with irrigation by means of Barker's flushing curette, the irrigation being adopted solely as a mechanical means of getting rid of the scrapings, etc. For this reason either plain boiled water or normal saline solution is quite as good as, if not better than, any antiseptic solution. Where the latter is preferred the solution must be very dilute, as serious, and even fatal, results have occurred from using strong antiseptics in these cases. Iodoform may be dusted into the cavity, or the latter may be more or less filled with iodoform emulsion, but it is a question whether the iodoform has much effect in producing a cure.

The whole wound is then accurately sutured, and pressure applied over a large pad of wool. In the majority of cases the wound heals by first intention, and there is no subsequent re-accumulation of tuberculous material. If the latter event does occur, it should be removed either by the aspirator or by making a small incision, the wound again being sutured.

Some authorities advise aspiration in the first place, but although possessing advantages this method has the decided disadvantage of not removing the semi-solid caseous masses or the lining membrane of the cavity. If aspiration is adopted it is usually necessary to repeat it several times, the cavity gradually becoming obliterated; but the result is not always satisfactory. When the cavity refills after thorough scraping, etc. (the wound having been sutured), the fluid which is formed is usually quite thin, and the aspirator can therefore be used without disadvantage, as there are no caseous masses to be removed.

In the subcutaneous variety of tuberculous deposit, if seen early, the whole mass may be dissected out, but if this is not possible, or if the skin is already infected, the mass should be assiduously scraped, and then sutures inserted. Particular care should be taken in scraping the edges of the skin, otherwise union by first intention will not result. If the skin is much infected it is better to excise the affected portions and then to suture the wound.

Caseating glands in the neck, axilla, etc., can also be treated in this manner with surprisingly good results, the wound healing, and not subsequently breaking down. In children, even when the glands are deeply situated—*i. e.* around the internal jugular vein—union by first intention can still be obtained. The advantage of having a linear scar instead of an ugly, puckered cicatrix is obvious, especially when it is in the neck.

Tuberculous dactylitis.—This is another affection which is common in children, and is, as is well known, a chronic tuberculous osteomyelitis. It attacks the bones of the hand much more frequently than those of the foot, but it is not rare in the latter. The phalanges are more often affected than the metatarsal or metacarpal bones. The bone involved becomes spindle-shaped, and, if left untreated, will gradually be destroyed in one or more places by the tuberculous granulation tissue. The skin then becomes of a dusky red colour, and gradually adheres to the deeper tissues, until, finally, it softens and gives way and a sinus is left which leads down into the interior of the bone.

In the early stages a cure can often be obtained by local treatment without operation, together with the constitutional measures usually adopted in tuberculous subjects. What is required in the local treatment is rest combined with the means to cause absorption of the chronic inflammatory products, which are the result of the invasion of the tissues by the tubercle bacillus. A Scott's dressing, carefully applied, answers the purpose admirably, and should be re-applied as often as it gets loose, this, of course, showing that the swelling of the part is diminishing. If these measures are not successful, the bone should be laid freely open and all the tuberculous matter scraped out by means of a sharp spoon. After this has been thoroughly done the cavity should be filled with small pieces of decalcified bone chips, the wound sutured, and a splint applied on the outside of the dressing. In most cases the wound heals by first intention, and there is very little subsequent deformity. If the bone chips are not used an atrophied and misshapened bone is nearly always the result. No drainage is required. As before, the essential point to remember is that even when a fluctuating swelling is present there is no pus, only broken-down, caseating tuberculous material.

ON A PECULIAR OUTBREAK OF ERYTHEMA NODOSUM.

By W. Langford Symes, M.D., F.R.C.P.I.,
Pathologist to the Royal City of Dublin Hospital; Physician to the Orthopædic Hospital of Ireland; and to the Homes for Children, etc.

Erythema nodosum is not an affection which one expects to assume an epidemic form. The following instances will at least serve to exemplify this possibility. One of the cases was an extremely severe one, and the child became profoundly ill, and in four endocarditis set in as part of the infective process. This affection is so usually regarded as a trivial circumstance that I am induced to briefly record these cases to emphasise the facts: (1) that it may become a serious and dangerous disorder; (2) that it is sometimes epidemic; (3) that it appears to be of an infective nature; (4) that endocarditis may arise during its course; (5) that it may be quickly followed by meningitis.

Twelve of the cases occurred in one of the Homes for Children with which I am connected. A fine, airy, large house, detached, with apparently good sanitation. Sometimes there is a little overcrowding as about 100 girls are in the same house, though the dormitories are large and airy. The house is in an excellent locality, in the best part of Dublin, and the children are well cared for. There was nothing peculiar in the food of those affected.

(1) May the 14th, 1907. V. P—, a girl, aged 7 years, felt her legs itchy, then painful and hot, and on the third day shining red lumps of erythema nodosum were discovered. It was also on the ulna and arm of each side. In four days more all the lumps on the legs became confluent, forming a hard, infiltrated swelling, pink in colour,

hot and painful. Temperature 104° F. at night, and child was excessively hyperæsthetic. The arms became covered with the rash, which was lumpy on the bones and purple or purpuric over the soft parts. The forehead shows several nodes of varying colour, some red and some greenish. Child is very ill. The heart is affected with a mitral regurgitant murmur. She is said to have sat on damp grass (early in May) and then to have got this attack. The spots are very palpable, pink, red, and purple, hot and hard if over the bones. Some other spots are just patches of red colour in the skin, but still painful and very tender. The child is making a good recovery. (2) This girl's sister has it now also; (3) and another girl in the same house, suggesting some infective process.

June the1st. The seven following cases are also now in bed in this same house, with typical erythema nodosum:

(4) M. I—, a girl, aged 5 years, ill one week. Temperature 100° F. Erythema nodosum on the forehead, shins, forearms, and triceps. Child is ill and nervous, and in pain.

(5) V. E—, a girl, aged 5 years, ill one week. On tibiæ only. Not severe. On June 4th an aortic systolic bruit developed.

(6) M. Mc—, a girl, aged 8 years. Temperature 98·4° F. on the sixth day of a relapse of erythema nodosum. Child had Rötheln about six weeks ago, then developed erythema nodosum, and after a fortnight's interval the present relapse came on. Has ten spots on one leg and eight or ten on the other, which are now amalgamating into one large patch. Tongue clean; child feels well. This is the worst case of erythema now, but the child is not seriously ill. A mitral systolic bruit has developed (June the 4th).

(7) M. P—, a girl, aged 10 years, sister of the first case, suffering now from a relapse. Had erythema nodosum about a fortnight ago; got up and went down, and is now affected again.

(8) L. C—, a girl, aged 13 years, suffering from second attack in legs. Got up and went out after first attack, and now has relapse. Complained of pain in legs first.

(9) E. S—, a girl, aged 12 years; has four and ten nodes on the two legs. The knee-jerks are excessively active, and there seems much pain.

(10) E. S—, a delicate girl, aged 14 years, has several painful nodes on each leg over the tibia. It is the second attack, having

had an interval of four or five days since the first onset. This time there is a mitral systolic bruit accompanying it.

In four of the above cases a relapse occurred.

(11) In this connection it is worth recording that in the present epidemic of cerebro-spinal fever which exists in Ireland, erythema nodosum may be the first link in the morbid chain. On May the 29th, 1907, during the above outbreak of erythema, I was called to the country to see a gentleman's child with "brain trouble." A magnificent boy, aged 4 $\frac{4}{12}$ years, while out driving, in brilliant health, on May the 27th, complained of pain in the right foot and leg, felt tired, whined with pain, and asked to go home (12.30 noon). He felt faint in the hall and again collapsed going upstairs. Next day (May the 28th) he was sickish, feverish, with white tongue; temperature 105° F.; acute erythema nodosum developing on right tibia; delirious and raving, with extreme pain and tenderness in the right leg and calf muscles. He was seen by the family doctor frequently. Although only twenty-four hours after the onset, he was now gradually passing into a condition of stupor. He had a convulsion on this night, which the nurse said was accompanied by frothing, cyanosis, and jactitation. On the 29th, when we both saw him (forty-eight hours from the commencement), he was lying unconscious on his back, with a fœtal pulse of 168. Extremely tender erythema nodosum on right leg; calf muscles swollen and painful; temperature 105° F. Tremor of hands and arms, with retraction of upper arms and rigidity of the jaws (trismus). No retraction of the head, no vomiting, no Kernig's sign. There was occasional slow and transient strabismus and intense collapse. He had another slight convulsion when we were in the house. He was extremely hyperæsthetic, and at times lay curled up in a state of irritability, with exalted reflexes, while at others he lay flaccid in a condition of paralysis, with no knee-jerks. He died that night (May the 29th), after an illness of but two and a half days, never having regained consciousness. The body and limbs turned black all over eight hours after death. The case is cited because of the associated erythema nodosum, being the first symptom in a case of, apparently, cerebro-spinal fever.

(12) M. C—, girl in above Children's Home, aged 10 years, with erythema nodosum on both legs, after recovery from gastric catarrh. Nodes hot and painful (June the 14th).

(13) M. A—, girl, aged 5 years, with daily fever and six and two nodes on both legs. Child ill. Pulse 144 on second day of rash (June the 14th).

SOME CASES OF CONGENITAL ANOMALIES IN CHILDREN.

By John Allan, M.B., Ch.B.Edin.

Congenital anomalies always afford interesting studies, although they are often unsatisfactory so far as etiology is concerned. In such cases we are frequently led to indulge in hypothetical explanations of their causation, as their true nature is wrapped in obscurity. The following cases present many features of interest, and some of them are uncommon.

Case 1 was that of W. W—, a male infant, aged 6 months, who first came under observation at the end of September, 1905. Though I do not assert that the case is unique, the fact of six herniæ being present in a child at the same time makes it sufficiently rare to justify record.

The mother brought the child to the Royal Alexandra Hospital, Brighton, for advice on account of the various ruptures and because he was wasting. On questioning the mother it was ascertained that he was a twin, the other twin (a girl) being the larger of the two at birth, and since birth she had grown and was now as well developed as any infant of her age. She had no deformity, nor were there any deformities in other members of the family. There was nothing of special note about the labour, and there had been no miscarriages. Both parents enjoyed good health and came of healthy stocks.

On examination the child was found to be much wasted, and was of a size that suggested a new-born infant. As regards the "ruptures," these had been present ever since birth. There was a large inguinal hernia on the left side. Just above this, and running up from the groin to the lumbar region, there was a tense, interstitial hernia measuring 2½ in. by 1 in. On the right side there was a small globular swelling in the groin (inguinal hernia), and there was also a small perineal hernia on this side. All were easily reduced but quickly returned. There were also an umbilical hernia and a smaller interstitial hernia on the right side. The child also had phimosis, but owing to his wasted and feeble condition it was not deemed advisable even to circumcise him. He was given emulsion of cod-liver oil, and was kept under observation.

Progress.—About the beginning of November he had a sharp attack of diarrhœa, which retarded the progress he had been making. On December the 8th, 1905, the following note was made: "Child's condition much better. The umbilical and perineal herniæ much less marked. The other ones remain the same." He improved greatly and put on weight, and in February, 1906, I circumcised him. Progress was noted from time to time. March the 16th, 1906: Much better. Herniæ much less marked. Child just recovering from bronchitis. September the 28th, 1906: Child's condition very good. Umbilical, perineal, and right interstitial herniæ quite gone. The others are much smaller. December the 14th, 1906: No hernia down now. Mother states that there was a large swelling in left groin three days ago. This is the only one that comes down now, and it only appears when the child coughs violently or cries much. The rest are apparently cured. The mother was told to get a left inguinal truss. She had been ordered to get a double inguinal truss some months previously, but through a misunderstanding she had not done so.

The child is now a fine healthy boy, well developed, and sturdy, though he is still smaller than his twin sister, whose development is above that of the average female infant of a corresponding age. All the herniæ, except the left inguinal one, have disappeared. The left inguinal hernia is perfectly controlled with the truss, and it is just a case in which a cure may result without operation. Should a radical cure be afterwards necessary, the operation will be able to be undertaken with every hope of a successful issue.

The cause of the multiple herniæ in this case is doubtless because the child was not fully developed when born; and the malnutrition and wasting can be assigned to the same cause. This view of the causation is supported by the fact that as development progressed the herniæ underwent spontaneous cure. In treating the child we were ably assisted by the mother, who took an intelligent interest in the rearing of the infant. He may be troubled with the inguinal herniæ in the future, but I think it is a case in which a very hopeful prognosis can be given.

CASE 2.—This case was sent up to the Royal Alexandra Hospital, Brighton, for admission as a case of congenital hydrocephalus. On admission (September the 9th, 1906) the head was found enormously swollen, and presented a rounded, fluctuating mass. On palpating the head the cranial bones could be felt, and they appeared to have been violently compressed, as sharp edges could be felt through the scalp. On further examination a most curious condition was found at the lower part of the vertebral column posteriorly. Over this region there was an open wound. This wound extended from the upper border of the twelfth dorsal vertebra to the lower border of the fourth lumbar vertebra. It was 3 in. in length and 2 in. in breadth. In no part was bare bone actually exposed; the erector spinæ muscles were in parts exposed. The margins of the wound were quite regular. No other abnormality was detected.

On going into the history of the case more fully it was ascertained that the child was born at 10 p.m. on September the 8th. The mother was attended by a mid-wife and labour was stated to have gone on for four days. No instruments were used. It was only after the child was born and the deformities noticed that a medical man was called in. The child was born at full term. There were eight other children, and, except in the first labour, which was long and tedious and an instrumental one, there had been no trouble in previous confinements. The mother had had two miscarriages. There were no deformities in the other children. When six months pregnant with this last child the mother had fallen down some steps, and struck her back against the edge of one of them.

The child appeared to be *in extremis,* and was not expected to live through the night, but contrary to expectation it rallied somewhat, and, as a matter of fact, lived for thirteen days. The temperature, which was 96·2° F. on admission, steadily rose to 105·4° F. on September the 12th. The child took his feeds well, was not sick, and the bowels acted regularly. On September the 14th I examined the child thoroughly, but did not gain much information. The heart's action was very rapid, but the cardiac sounds were closed. Air freely entered both lungs. A specimen of urine was obtained and examined chemically and microscopically. Albumin was present and there was a deposit of urates. The microscope demonstrated the presence of urates. A few epithelial cells were also seen, but no blood-corpuscles or casts of any kind were detected. Another examination on September the 18th gave the same information. It was with extreme difficulty that the child could now be got to swallow at all. The wound over the lumbar region showed signs of healing at the edges. The size of the head remained practically the same and did not show any appreciable diminution in circumference. A day or two before death about a dozen punctate hæmorrhages appeared in the skin over the thoracic wall. Death took place in the early morning of September the 21st, 1906.

A post-mortem examination was made on the same day. When the head was opened a large quantity of clotted blood and serum escaped. The anterior fontanelle was much more open than usual. The bones on the left side of the cranium were raised, those on the right side depressed. There was no fracture at any part. In exposing the brain a quantity of clear fluid escaped. The brain was soft and macerated and it was found impossible to get it out whole. When removed it collapsed entirely. The thoracic and abdominal organs presented no congenital abnormality. Some of them showed signs of cloudy swelling. A minute examination of the wound in the back failed to reveal anything fresh. There was no opening communicating with the spinal canal.

In looking over this case there can be no doubt that it is a case of cephalhæmatoma, but the question is whether there was hydrocephalus as well. I think there was, because to my mind there was considerably more fluid than could be accounted for by the serum of the effused blood. The fluid which escaped when the brain was exposed was not blood-serum. If it had been simply a cephalhæmatoma one would have expected that in twelve days there would have been some diminution in the size of the head, but as has been already mentioned there was no decrease in size.

We now come to what I think the most interesting condition in the case, namely, the solution of continuity of the cutaneous and subcutaneous tissues over the lumbar region. How can this be explained? One is frequently startled to see recorded cases which appear to be curious coincidences. In this case the husband associated the condition of the child's back with the fall his wife had when she was six months pregnant, and no amount of argument would make him change his mind in this respect. It is not possible to suppose that the fall which the mother had would be so severe as to injure the child *in utero*. As to what part maternal impressions play in such cases I am not prepared to say, but it is an explanation about which I am extremely sceptical.

There can be no doubt that the prolonged labour caused the cephalhæmatoma. Will this explain the condition of the back? I hardly think so. When one considers the nature of the wound such an explanation falls to the ground. The edges of the wound were even and regular, indeed, it first looked like a dissection to demonstrate the erector spinæ muscles in the lumbar region. It is said that intermittent pressure causes hypertrophy, continuous pressure atrophy. Granted that there was continuous pressure for some time, how is it possible that such pressure could be kept up over an area 3 in. by 2 in. sufficiently long to cause atrophy of the skin, etc.? If such had been partly possible I should have expected an uneven wound with ragged and irregular edges.

I suppose the most probable explanation is that nature had not completed her work before the child was born, but why this should have been I am not prepared to answer.

As regards the other points in the case, the albumin and urates in the urine probably depended on the temperature, and the temperature was probably partly due to some toxic absorption from the lumbar wound and partly to some interference with the heat-regulating centre in the medulla oblongata by the effused fluids.

Case 3.—This was a case of deformity of the left ear. R. S—, a male child, aged 1 year, was brought by his mother on account of deformity of his left ear. It had been present since birth, but the mother was anxious to have something done to improve his appearance. He was admitted to the Children's Hospital, Brighton, on September the 22nd, 1906. It is somewhat difficult to describe the condition exactly, and in doing so one is forced to fall back on the various technical terms applied to the different parts of the ear. Instead of being of the usual ovoid shape the ear was more rounded, and was, as it were, folded in on itself, becoming somewhat pointed at its most external part. The helix was directed forwards and somewhat inwards, and the fossa of the helix was narrower and deeper than usual. The concha was deepened, as was also the fossa of the antehelix. The other parts were, practically speaking, normal. There was no other deformity. The mother was a young married woman, and this was her first child. Both she and her husband were healthy, and there were no deformities among their relations on either side.

On September the 26th the ear was operated on. An elliptical portion was removed posteriorly, close to the junction of the auricle with the head. This included part of the cartilage. It was found, however, that the ear could not be maintained in normal position, so at the upper end of the ellipse a wedge-shaped portion was cut out. The adjacent surfaces were sutured. The child's appearance was much improved, and except that the left ear is slightly smaller than the right, no marked difference between the two is noticeable. The wound did not heal by primary union as was anticipated, and on afterwards questioning the mother it was ascertained that there had been discharge from the ear a few weeks before, but this had stopped and there was no trace of it when the child was admitted to hospital. He was discharged on October the 13th, 1906.

A recent letter of inquiry elicited the information that the wound has remained healed, that the ear is greatly improved, and the difference between the two sides is scarcely noticeable, although there is a very slight tendency for the left ear to project a little forwards.

Case 4 was that of W. A—, a boy, aged 5 years, who was first seen in June, 1906. He was brought by his mother for advice, on account of bilateral congenital hammer-toe. The condition had been present ever since birth. On examination the fourth toe of the right foot was found to present the deformity generally described as hammer-toe. The first phalanx was dorsi-flexed, the second phalanx was plantar-flexed, and the third phalanx tended towards dorsi-flexion. Owing, doubtless, to the age of the patient there was no callosity or adventitious bursa. The corresponding toe of the left foot was similarly affected. The toes could be manipulated into practically normal position, but when left alone always returned to the position above described. The child had previously been treated with splints, but the mother was not satisfied with the progress made, although on cross-examination she admitted that there had been slight improvement. She practically begged for the toes to be amputated. Such a drastic course did not, however, appear justifiable in view of the fact that the condition had improved; and, moreover, the contractures were not so aggravated as to negative the supposition that the condition might be cured by simpler means. Apart from these deformities the child was a well-developed, healthy boy. Family history regarding abnormalities among the other members was negative.

The treatment advised was that splints should be applied along the plantar aspects of the affected toes, the splints being kept in position by means of an elastic bandage. The child was seen occasionally to note progress. When last seen there was marked improvement, so much so as to give one good reason to hope that the means adopted for remedying the deformity would result in a cure.

In commenting upon this case it is only necessary to mention one or two interesting points. The simple fact that it is congenital is not of much importance, for such cases do occur as congenital abnormalities. In these cases, however, the condition is generally stated to be unilateral, while in the case just described it was bilateral. The second toe is the one most often affected, even in congenital cases, while in this case the fourth toe was the deformed one. Hammer-toe is usually ascribed to, and associated with, the use of ill-fitting boots, but in the case under consideration this can only be of significance in the future. If the treatment adopted should result in a cure, the care of the feet in after life will be most important for the patient. To enable the cure to be permanent great care will have to be exercised in the choosing of suitable boots, otherwise there would be reason to fear a return of the deformity, the person affected having a predisposition towards such.

Case 5 was one of what I have called "congenital shortening of the femur." E. E—, a female infant, aged 16 months, was seen on October the 11th, 1906. Advice was sought because the right leg was shorter than the left, and because it was not growing and developing like the left one. The condition had been apparent practically since birth, but as each month passed it became more marked. The patient was the first and only child and was born at full time, the labour being normal. There was no history of any injury to the mother during pregnancy, a point about which I shall have more to say when commenting on the case. There were no abnormalities among any of the relatives.

For the first few weeks nothing was noticed, but very soon the difference between the two legs manifested itself. This difference became more marked as time went on, and it was very noticeable when the child came under observation in October last. The state of affairs was then as follows: The right lower extremity was 2¼ in. shorter than the left. On the left side the measurement from the anterior superior iliac spine to the internal malleolus was 13¼ in., while the measurement between the corresponding points on the right side was only 11 in. The difference in length was due entirely to shortening of the right femur, because the measurement from the internal condyle of the femur to the internal malleolus was the same on both sides. As regards the muscular development, there was practically no dissimilarity between the two sides. The muscles of the right thigh were very slightly softer and flabbier than those of the left, but the variation was hardly distinguishable. There was no appreciable difference in the circumferences of the two thighs. There was a curious little dimple in the skin just over the great trochanter on the right side, and also a similar dimpling on the anterior aspect of the right thigh about ½ in. below the mid-point of Poupart's ligament. There was no paralysis of the right lower limb, the child being able to kick it about as freely as the left; and so far as could be judged there was no abnormality in the sensibility of the affected limb.

The child could walk with assistance, and the lameness, waddling gait, etc., were explained by the difference of the lengths of the limbs.

Here, then, we have a perfectly healthy child with the right leg shorter than the left. What is the explanation? The examination has shown that this shortening was due to the femur. There is first suggested to one's mind the possibility of a fracture or injury in the region of the epiphyses. An X-ray photograph, according to an expert, did not show any fracture. From the photograph it was clear that some growth had taken place, but that had evidently been from the lower epiphyses entirely, although to my mind that growth even was less than what would have occurred under normal conditions. There was apparently no injury to the mother during pregnancy, a point regarding which the mother was minutely cross-examined. It is hardly conceivable that an injury which the mother was not cognisant of would be sufficient to cause a fracture at the neck of the femur in the region of the epiphysis (for a fracture not at the epiphysis would not have interfered with the growth of the bone) or even a severe injury to the epiphysis. One has also to take into consideration the question of injury during parturition. Labour, however, seems to have been easy, and was neither prolonged nor instrumental. The mother being a primipara would probably have been inclined to indulge in exaggeration had the labour been a tedious one.

There is, then, no positive indication of injury, but except there had been some interference with the epiphyses one can only indulge in a hypothetical explanation. One may say that it is a case of congenital shortening of the femur, and as regards a name for the condition that is doubtless true enough. It may be that congenital shortening does occur, just as a bone or bones in certain individuals are occasionally absent. Be the cause what it may the case is certainly an interesting and an unusual one, and in the literature I have been able to consult I could not find a similar case described. But since writing my paper there has appeared in the 'British Medical Journal' of March the 23rd, 1907, a record of a case of congenital deformity of femur. Mr. F. M. Blumer showed at a meeting of the Staffordshire branch of the British Medical Association a female child, aged 12 months, whose right femur was two and a half inches shorter than the left. The birth was normal, the head presenting, and the deformity was at once noticed. The hip-joint was normal, and the shortening appeared to be due to arrest of development of the lower epiphysis. This differs from my case, inasmuch as in mine the mischief was at the upper epiphysis.

Such are a few of the more interesting congenital anomalies that have recently come under my notice. The cases above described are so different from one another that they cannot be compared. It is, however, interesting to note that all are isolated cases in their respective families—a point sufficiently striking to be worth mentioning.

In conclusion, I should like to express my indebtedness to Mr. G. Morgan and Mr. L. A. Parry for kind permission to make use of their cases.

THRUSH AND ITS SEVERER EFFECTS.

By J. Gordon Sharp, M.D.Edin.

In looking over notes on thrush (infection by *Saccharomyces* [*oïdium*] *albicans*) in infants, I find that within the space of ten years in my practice not less than seven children have died from it as a primary affection. This is a large number of deaths due pure and simple to what is often looked upon as a trifling malady. The average age at death was eight and a half weeks, and no child was over thirteen weeks. The immediate cause of death was in three instances laryngeal implication; while in the other four cases death was due to progressive wasting with vomiting and diarrhœa. Two of the deaths took place in successive babies of the same parents. I have observed that certain families are more susceptible to the invasion of the fungus than others. Nearly all the fatal cases occurred among people who may be described as "dirty," although it is not invariably my experience that the condition is found alone amongst dirty people. On the other hand, I have often met with it in well-to-do circles where it may have been conveyed in the milk, although I have never met with a severe case in the nurseries of this class. I have met with more than one case of thrush that I have reason to believe was conveyed by a thoroughly trained professional nurse.

Speaking of thrush in general, I have noticed that an outbreak often followed in working-class districts in summer after the emptying of the ashpits. I have further observed that children living close to the combined ashpits for ten or a dozen cottages were oftener attacked than the children living at the end of a row of cottages furthest removed from these ashpits. I have not met with thrush so frequently as formerly, and I believe this is due to the greater attention paid to sanitation in the shape of flushing sewers, gully traps, and also to the greater frequency with which ashpits are emptied, especially in warm weather. The summer of 1903 was one of the wettest on record, and never had we so little thrush and diarrhœa. A word to the wise——

Thrush as a cause of summer diarrhœa.—Among infants my experience teaches me that so-called summer diarrhœa often has its origin in infection by the *Saccharomyces albicans*. The fungus spreads from the gums and tongue to the palate, throat, and "goes through" the infant, as the mothers say, producing painful motions with redness and soreness of the lower extremity of the alimentary canal. In most instances where one finds this redness around the seat I don't think there is any actual growth of the fungus in the tract between the pharynx and the anus. On the other hand, I believe the diarrhœa and soreness are caused by decomposing particles of food, fungus and tissue which have been carried down. In the severest cases the fungus does actually grow in the stomach and bowel, but this is rare. Here let me once more make clear that I am dealing with thrush as a primary affection and as a primary cause of infantile diarrhœa, hence in every case my efforts are sedulously directed to the care of the mouth when diarrhœa exists in an infant, and I am sure I have saved lives by directing my efforts to the care of the mouth.

(1) *Case of thrush affecting mouth, naso-pharynx, and middle and external ears.*—In July, 1903, I had under my care a female infant, aged 1 month, whose case presented such an extension of the fungus as I had not before met with. The people were cleanly in every respect, but the house was situated on the banks of a stream that was polluted by the refuse from a large tannery. The weather was not warm, for the summer of 1903 was notably wet and cold. The history was that the infant had had thrush more or less ever since it was a week old, but within two days previous to my first visit the affection had increased to such severity as to alarm the parents. On examination I discovered the tongue, gums, hard and soft palates, and back wall of pharynx to be attacked. There was vomiting and diarrhœa, and the anus and genitals were red and sore. Two days later the mother called my attention to the state of the external auditory canal, saying the thrush was there also, and true enough

the floor, roof, and sides were covered with a luxuriant growth of the fungus. Both sides were affected. In two days after this a thin watery discharge came from both ears, and this was followed later on by thin purulent matter. I examined the ears with the speculum, and I thought there was a rupture of both membranes, but on this point I cannot make any positive statement for the membrane is so tiny in an infant, but my firm conviction is that the fungus had passed from the pharynx into the naso-pharynx, then into the Eustachian canal, into the middle ear, and so on to the external ear. There was hoarseness, so that in all probability the parts around the glottis were also attacked. Happily, vigorous treatment was successful. At the end of three years I tested the hearing, and found it normal to the ordinary rough tests.

(2) *Thrush affecting mouth, palates, pharynx, naso-pharynx, nostrils, and epiglottis.*—This second case was sister of the first child. I first saw it in January, 1906, when it was five weeks old. The parents had removed from their former residence to a newly-built house in a healthy neighbourhood. What, then, were the means by which the fungus was conveyed? I believe by a not over-cleanly, old-fashioned nurse, to a child especially susceptible. In this instance the fungus was present on the tongue, gums, palates, pharynx, naso-pharynx, nostrils, and epiglottis. The nates and genitals were red and sore, and vomiting and diarrhœa were prominent symptoms. By means of a good light with the child's head over the mother's knees I was able to make a good examination of the nostrils and to trace the fungoid growth as far up as the lower end of the upper turbinate. Although vigorously removed, the growth returned again and again, and it was ten days before it completely cleared up and the child could be declared well.

Had I not examined the fungus growth in the ear and nose and been convinced that it was actually the *Saccharomyces albicans*, I could not have believed that it was possible for it to extend to these situations.

Treatment: (1) *General.*—My first line of treatment in every case of thrush, however simple, is to prescribe a dose of castor oil, so that the alimentary tract may be clear. My second is to see that the bottles are kept clean and sweet, and my third is to attend to the food. I direct that the milk be well diluted, say one part of milk and three, or even four of water. If there is much sickness or diarrhœa, or both, I tell the nurse to feed the child on whey or weak beef-tea from which all fat has been removed. This line of treatment is obviously only to be carried out till the sickness and diarrhœa have passed away.

(2) *Local.*—This I regard as very important—important because I carry it out once a day myself, and then I know it is efficiently performed. I am sure much discomfort, if not actual pain, is given to an infant by the neglect of proper, simple, operative treatment. My method is as follows: I wrap a piece of clean soft rag, or lint, around the whole length of the handle of a teaspoon. I next dip it in warm water, press out the superfluous fluid. With the prepared handle I scrape off every particle of fungus and adhering matters, using, if need be, a second, third, or fourth piece of rag or lint, and till every part is thoroughly clear and I have obtained a red and bleeding surface. If after this cleansing I find any one part especially rough, raised, and red, I touch it with the nitrate of silver pencil. As a rule I find the latter proceeding unnecessary, and what I do is simply the following: I cover the handle of the teaspoon as detailed, and dip the moist rag or lint in powdered boric acid, and I rub every part of the mouth that is affected. If I have reason to fear that the naso-pharynx is affected I employ a bent and pliable sponge-holder charged with moistened cotton wool to clear away the fungus, and afterwards a fresh piece of moistened wool is dipped in powdered boric acid and applied to the raw surfaces. When the epiglottis is affected I have the child's head hanging over the nurse's knees, and I attack these parts with the protected teaspoon or the sponge-holder. Sometimes a particle of boric acid gets in between the cords causing a momentary blackness of the face, but setting the child up and slapping its back soon sets it to rights again. When the nostrils are affected I wrap a piece of rag or lint round a fine pair of forceps or thick probe, and clear everything away and then apply the boric acid. Glycerine of borax and glycerine of boric acid are much less efficacious than the boric acid, and I have given up their use. Formerly I employed mixtures of weak carbolic acid and glycerine, or solution of sodium salicylate and glycerine to be given three or four times a day, but lately I have not prescribed them. I rely on the local treatment, attention to the bowels, and the feeding.

In the case where the thrush extended to the external ear I had the parts syringed with a weak lather made from carbolic soap, and the ears afterwards filled with finely powdered boric acid. This was carried out twice daily, and at the end of four days the parts were quite free from the growth.

When breast-fed babies become affected, I, in addition to the usual treatment, direct the mother to wash the nipples and breasts twice daily with clean warm water, leaving the nipples moist, and then to rub them well with boric acid powder, and not to wash it off when the child is put to the breast.

In all cases of diarrhœa in infants and young children I pay particular attention to the cleansing of the mouth, and if there is secondary thrush I attack it in the way I have mentioned.

The Society for the Study of Disease in Children.

The Provincial Meeting of this Society was held at the County Hospital, Bedford, on June the 15th, Dr. R. H. Coombs (introduced) in the chair.

The following **Cases** were shown prior to the formal meeting: (1) Congenital Abnormality of the Eye, by Dr. Harvey Goldsmith; (2) Genu Valgum and (3) Achondroplasia, by Dr. Ross (introduced); (4) Congenital Dilatation of the Colon, by Dr. R. Coates (introduced) and Mr. H. J. Skelding; (5) Exophthalmos, by Mr. Johnson (introduced); (6) Advanced Mitral Stenosis with Regurgitation, and (7) Multiple Periostitis, by Mr. W. Sharpin (introduced); (8) Case of Favus, by Mr. Lloyde (introduced); (9) Branchial Fistula, by Mr. H. J. Skelding; (10) Enlarged Spleen (see Microscopical Specimen, No. 7), by Dr. Willmer Phillips (introduced); and (11) Renal Calculus? by Mr. H. J. Skelding.

Microscopical specimens.—(1) Tinea; (2) Diphtheria bacillus; (3) Tuberculous gland; (4) Lymphadenomatous gland; (5) Endothelioma of Humerus; (6) Blood from Spleno-medullary Leucocythæmia were shown by Dr. H. L. Waller (introduced). (7) Blood-smear of Case No. 10; and (8) Bilharzia by Mr. Johnson (introduced).

Pathological specimens.—(1) Congenital Cystic Kidneys were shown by Mr. Johnson (introduced) for Mr. Nash; (2) Kidney with Uric Acid Calculus in Pelvis, and (3) Cystic Tumour, Cavernous Lymphangioma by Mr. Nash; (4) Diverticula of Small Intestine, and (5) Large Vesical Calculus from a Boy, aged 4 years, by Mr. H. J. Skelding; (6) Glioma of the Retina, by Dr. Goldsmith (introduced).

Numerous **skiagraphs** were also exhibited.

A Discussion on Acute Rheumatism in Childhood was opened by Dr. C. O. Hawthorne. Dr. Hawthorne referred to the considerable change which had taken place in the professional view of the age incidence of rheumatism in comparatively recent years, and to the several special characters which distinguish the disease in the earlier years of life. Dealing, in particular, with the frequent occurrence of cardiac disease in rheumatic children, he argued that this was probably due to the absence of restraint in the child's activities as a result of the comparative escape of the joints, and he advocated the practice of informing the parents of rheumatic families of the risks involved even in the apparently trivial illnesses of their children. While allowing that various conditions frequently labelled "rheumatic" were often worthy of that diagnosis, he considered that there existed too ready a tendency to apply this term to isolated events, the true nature and origin of which were obscure. In conclusion he discussed the various aspects of treatment, both curative and prophylactic.

Dr. **William Ewart** believed that endocarditis should be treated by calomel and antiphlogistic measures.

Dr. **C. W. Chapman** said the condition of the tonsils was of great importance, and if there was a discharge they should be removed.

Dr. **Alexander Morrison** mentioned two classes of cases, one of which promptly subsides under salicin treatment, and another, which while relieved of some of its inconvenience, gradually developed into another type of disease in which salicin had very little effect. He spoke of erythema nodosum, which is not always a rheumatic manifestation. In this disease he found that an interval of ten to fourteen days elapsed between the initial sore throat and the development of the rash; he looked upon this as its incubation period.

Dr. **A. C. Hartley** (introduced) said that it was generally believed that a damp climate was bad for rheumatism, but during his fourteen years' experience of Bedford he had seen comparatively little of that disease, which was strange considering how favourable were the conditions for its development.

Dr. **G. A. Sutherland** drew attention to the cases of rheumatism where a cardiac murmur, which had developed gradually, disappeared, only to return when the patient was allowed to get out of bed. Should the patient be kept in bed for a further period or not? In another class of case where there are recurring attacks of subacute rheumatism salicylates were of little value. There must be some concealed source of infection. These cases go downhill and die in two or three years whatever was done for them.

Dr. **C. O. Hawthorne** then replied. He was averse to a long course of rest when he was sure there was mitral disease, but he hesitated as long as there was any doubt. In the prolonged cases he advocated the use of alkalies, pushed till the urine was distinctly alkaline.

A Paper on Cerebro-spinal Meningitis was read by Dr. **Edmund Cautley**. He drew attention to the different varieties of meningitis and the value of age incidence as an aid to diagnosis. The importance of sporadic cases of cerebro-spinal meningitis, and the relationship of such cases to the so-called post-basic meningitis of infants and to epidemic cerebro-spinal fever, were emphasised. Dr. Cautley spoke of meningococcus, its cultural and morphological characters, of lumbar puncture, and of cyto-diagnosis, and drew attention to the mode of onset, severity, and prognosis of cerebro-spinal meningitis. He also reviewed the present methods of treatment.

Notes of a Case of Bilharzia were read by Mr. **H. J. Skelding**. The boy aged 11 years, came to Bedford school, from Umtali in Rhodesia, in October, 1906. He was first seen on March the 2nd, 1907, when he developed measles. During the attack attention was drawn to the very deep sleep he was always in when visited either in the morning, afternoon, or evening. The nurse reported that he was with great difficulty aroused, and that after he had taken nourishment he fell again into heavy slumber. He complained of no pain, uneasiness, or inconvenience, and when he was awake he was quite rational, although unless roused he appeared as if he had been drugged. This state of torpor gradually diminished, and finally, at the end of three weeks he regained his normal condition to a certain extent. On the fifth day after the development the nurse drew attention to the condition of his urine, which was cloudy and contained a very considerable quantity of blood of a bright-red colour, with little deposit. This, the first specimen, was unfortunately thrown away. The next specimen contained much less blood, but was cloudy, and had on settling a stringy muco-gelatinous deposit, which on examination showed the eggs of *Bilharzia hæmatobia* in clusters and very numerous. In the first instance Mr. Skelding looked upon it as a case of hæmaturia due to the attack of measles, but on questioning the boy whether he had anything the matter before he came to England he said he passed some blood, but little notice was taken of it as "a number of people, especially the 'niggers,' had it." That at once suggested bilharzia to him. Since his attack of measles he has been constantly under observation, and the following observations were made: he has a pale, leaden colour of skin, with slight flush, the skin being dry and appearing as if dusted with flour. He is unable to take any great exertion, a walk of two miles fatiguing him. The temperature is slightly raised in the morning, 99° F., becoming sub-normal at night, 97° F. Every ten to fourteen days he begins to feel uneasy, the temperature rises to 100° F., and he passes more blood. When he passes urine the first flow is quite clear, then follows a "thin, streaky condition," and the last few drops are bright blood. This Mr. Skelding believed to be symptomatic of the disease. There is only occasionally pain, and that at the end of micturition. There has been no œdema or swelling of the feet, and no rectal symptoms. The ova are readily demonstrated under the microscope. Mr. C. G. Johnson, who examined several specimens, on one occasion in a fresh specimen saw the free embryo swimming about. He was ordered as little exercise as is possible whilst allowing him to resume work at school; no games, and nothing in any way to fatigue him; a light, simple diet, as for mild cystitis. Under this he has much improved. The disease is scarcely mentioned in any of the well-known works on children's diseases. There are two short accounts in Patrick Manson and Clifford Allbutt. The mistaken idea that the embryo gets into the bladder through the penis appears prevalent, for the natives tie a string round that organ when crossing a river. Mr. Skelding could find no record of definite treatment amongst children. But it seemed rational to him to treat the *symptoms* as for mild cystitis, and try to prevent the sequelæ of such a condition, viz. calculus and nephritis. The embryo is said to be more frequently found in the blood portal system. Mr. Skelding thought the following remarks made by Guillemard in Allbutt's 'System' warranted particular attention being paid to this disease by scientists: "The prognosis is less favourable in adults than in that of boys, *and on the whole the probability is that the patient will never be a perfectly sound man again.*"

A Paper on Right-angled Contraction of the Tendo-Achillis as a Cause of Stumbling, etc., in Children was read by Mr. A H. Tubby. Mr. Tubby said the clinical picture presents the following variations: (1) Pain in the calves and round the knees. The child becomes tired in walking, and stumbles and falls on attempting to run. (2) Shambling gait, short steps, and bent knees, the bending being increased on taking longer steps. (3) Constant occurrence of sprained ankle. (4) Everted feet, though the arches have not fallen, but are often exaggerated. (5) Turning in of the toes, the child walking on the outer side of the foot. All these clinical phases result from a varying degree of loss of the angle of dorsi-flexion of the foot, due to contraction of the calf muscles and tendo-Achillis. This produces shortening of the stride in walking, the patient being in uncertain equilibrium if he attempts to take a long step. If allowed to proceed the condition develops into ordinary talipes equinus, and recognition and appropriate treatment of these slighter degrees of contraction are essential. In examining the child the movement of dorsi-flexion of the foot should be slow, gentle, and steady, and one examination is often insufficient to determine the degree of contraction present. The condition is usually due to infantile paralysis, and the difficulty in walking and other symptoms described to the surgeon frequently begin with one of the exanthemata. Another set of causes is associated with throat lesions, and in Anglo-Indian children there is often a history of one or two attacks of "fever." The treatment presents considerable difficulty. If, with the limb fully extended, the foot is incapable of dorsi-flexion beyond a right angle, it is advisable to lengthen the tendo-Achillis. An open operation is recommended, the tendon being lengthened by the Z-shaped method. A transverse incision is made half-way through the tendon, the knife carried vertically downwards for a distance of half to one inch, then turned on the flat, the remaining part of the tendon cut through transversely, and the two portions slid upon one another until the desired degree of lengthening is obtained. In cases where there is only a small diminution of 5 degrees or so of the angle of dorsiflexion, passive and active movements designed to stretch the contracted structures are advisable, and much assistance is afforded by a boot with a toe-uplifting spring. If these measures fail recourse may be had to the method of operation described above.

A Paper on Œdema of the Limbus was read by Dr. HARRY GOLDSMITH. The reader said: In the course of the past few years I have had brought under my notice not a few cases of a peculiar condition of the conjunctiva, to which the term "œdema of the limbus" may casually be applied. The cases occur mostly in children, or very young adults, and are especially common in the early summer months. A typical case presents the following features: There is photophobia, sometimes considerable, more or less injection of the ocular conjunctiva, which at the limbus is heaped up into a greyish mass, or series of small grey nodules, which occasionally completely surround the cornea; the latter is the more common condition. I have never been able to detect any loss of the superficial epithelium, and the nodules never break down as in phlyctenular conjunctivitis. With it there is invariably a granular condition of the palpebral conjunctiva, and when this is relieved by the usual treatment—*e.g.* yellow oxide of mercury or argyrol—the œdematous nodules quickly subside, unless the case has been neglected, when they may persist for months. In one case, a boy, aged 10 years, the masses were so large and persistent after I had got the lids into a healthy state that I dissected them off. The boy reappeared about a year later with the swellings again present, but not so marked as formerly, and they quickly subsided under treatment. The occurrence and recurrence of the condition at a certain season of the year has led me to consider it a mild type of vernal catarrh.

A Paper on Nephritis in Infants was read by Dr. GEORGE CARPENTER. The writer remarked that albuminuria in healthy infants during the first few days, and sometimes weeks of life, is not an uncommon occurrence. Not only is albumin found but also hyaline, epithelial, and granular casts. On the other hand, the reader could affirm from his own observations that the urine of newly-born infants was often free from albumin and also casts. He had found it so in many observations on one infant, and in single observations on many infants. In sixty-two cases of infants coming under his own notice, ranging in age from three weeks to eight months, and brought to the out-patient department for a variety of ailments, he had found albumin in two only. One was a child, aged 1 month, brought because its mother's milk was failing. The other was aged 6 months, and pus cells and desquamated bladder-epithelium were found in the urine to account for the albuminuria. Dr. Carpenter then reviewed the literature. Observations by E. Mendi, Fry, and Martin, E. Bellico and Dwight Chapin were narrated, and the large number of infants that had been found by these observers to be albuminuric were far in excess of his own experiences. Next, dropsy in infants engaged the reader's attention, and he pointed out that the dropsy associated with infantile gastro-enteritis and acute infectious disease in no sense differed in appearance from that met with in nephritis. The observations of Hutinel, Barthelemy, Follet, Rocaz, and L. F. Meyer proved that albuminuria is rare in the œdema of infantile gastro-enteritis, and with that view he was in entire accord. Stöltzner, in a communciation on "The Œdemas with Albuminuria in Young Children," arrived at the conclusion that in their occurrence and characters they exactly imitated nephritis, and when the cases are examined after death inflammatory changes are always found. But Dr. Carpenter considered such a statement in regard to inflammatory changes far too sweeping, as he had observed several examples to the contrary. Hutinel attributes the dropsy to retention of chlorides in the system, and his theoretical views had been confirmed experimentally by Heubner. At the autopsy the kidneys were found to be perfectly healthy. Two other cases reported by Meyer confirm Heubner's experiments. Dr. Carpenter also gave his own confirmatory experiences. The reader said that referring to his own clinical experiences and that of his fellow countrymen there could be no doubt that cases of nephritis did occur from time to time in the youngest infants, and with the usual objective signs of that complaint. It was also probable, he said, that the disease in some cases started in intra-uterine life. He then gave illustrations of the condition that had been under his own care, and quoted others that had been narrated in the 'Reports' of the Society by Ashby, G. A. Sutherland and others. Cassel's observations on the kidney changes in cases of congenital syphilis were also given, and also the observations of Stroeba, Hecker, Coupland, and Speiss, and his own. Dr. Carpenter concluded by saying it would appear in the present state of our knowledge that interstitial nephritis may be produced by toxins other than those of congenital syphilis. This was of interest from two points of view, viz. (1) the suggestion which has been made that the cirrhotic kidney is a syphilitic manifestation; (2) the possibility of the seeds of this disorder being sown in infantile life and of the cirrhotic kidney being produced by intestinal toxins. Dr. Carpenter laid special stress on the fact that diseased kidneys *often to the naked eye appeared perfectly healthy.* He had on many and repeated occasions drawn attention to this and thought that observation most important. He said that nephritis in infants is a much less rare condition than is commonly supposed to be the case, and that there is a large field for research work in this department of children's diseases.

Editorial.

PNEUMOTHORAX.

Nearly all the text-books on children's diseases have no information to give on the subject of free air in the pleural cavity in childhood, and on perusing their pages it would appear that the condition is not met with during the early years of life. When it is mentioned it is described as being of rare occurrence.

That it is not as common in childhood as in adults is unquestioned, but cases do crop up from time to time in practice, and it is well that the practitioner should be on his guard and be mindful of this complication. We have from time to time met with examples of pneumothorax in children, and we do not look upon this condition as being so exceedingly rare that the possibility of its occurrence can be ignored.

Pneumothorax usually arises in the young in association with septic pneumonia and the formation of single or multiple abscesses, or gangrenous patches, in the lung-substance and associated with empyema. Sometimes it happens in tuberculous disease of the lung, and it may originate in typhoid fever. We have experienced many more cases of septic pneumonia than tuberculous disease of the lung, although it has been taught that nine tenths of the cases are due to pulmonary tuberculosis. It may be traumatic in origin; thus it may occur in sequence to exploratory puncture of the chest, or to aspiration of the chest with a hollow needle. Of all causes the most uncommon is the rupture of emphysematous vesicles.

If pneumothorax arises in connection with a lung which is not extensively diseased, the sudden rupture of the pulmonary tissue and the filling of the pleural cavity with air will quickly bring about a state of great breathlessness.

As the air accumulates in the pleura the lung collapses and the heart and mediastinum are thrust to one side, the liver and spleen are dislocated, and the dome of the corresponding diaphragm becomes flattened. Usually, but not always, there follows a sero-fibrinous or purulent inflammation from the admission of micro-organisms. The physical signs of free air in the pleural cavity of the child are the same as those met with in adults, and the advent of fluid brings about the usual additional phenomena associated with that condition.

Examination by X rays with the screen reveals extreme translucency of the affected side of the chest associated with faint shadows denoting the collapsed lung, displacement of the heart and flattening of the dome of the diaphragm.

Large tubercular cavities are so rarely met with in childhood that that condition is not likely to be confounded with pneumothorax, although their physical signs are very similar. So, too, emphysema; this condition also gives hyper-resonance to percussion and muffled breath-sounds, but emphysema is bilateral, it does not cause cardiac or other displacements, and, when present, is usually associated with bronchitic râles. If the air be under great pressure a dull or muffled note suggestive of fluid may be obtained on percussion, but otherwise hyper-resonance is a feature of the condition. Splashing sounds, so distinctive of gas and fluid, can also be heard over children's stomachs, and must not be confused with the same sounds audible over hydro- and pyo-pneumothorax. Attention to the situation where these are best heard will prevent mistakes in diagnosis.

In regard to the treatment of pneumothorax, that produced by exploratory puncture is best left alone. If air accumulates under pressure the pressure should be relieved by aspiration. When there is air and fluid present, and usually pus, the case must be treated as an ordinary empyema by free evacuation and drainage. In those severe cases of septic pneumonia associated with abscess and gangrene formation, the additional factor of free gas in the pleural cavity is of no special clinical significance. Such cases must be treated as ordinary empyemata, but their danger lies in the profound intoxication and not in the mechanical accident.

Abstracts from Current Literature.

Medicine.

Pigmentation and palmar keratosis ('*Arch. of Pediat.*,' *vol.* XXIV, 1907, *p.* 38).—**J. Sobel**, in a short paper on general pigmentation and keratosis following the use of Fowler's solution, reminds his readers that they should inquire into the medication recently taken when an eruption does not accord with the "clinical manifestations of ordinary eruptions." Pigmentation and keratosis are apt to be ascribed to serious disease. A boy, aged 6 years, son of a physician, was referred to Sobel as possibly a case of Addison's disease. During a period of forty-seven days he had taken 453 drops of Fowler's solution. The face was yellowish-brown; the anterior and posterior surfaces of the neck presented a dark brown, irregular, dirty-looking discolouration; chest, abdomen, and back were stained light yellow-brown; axillary folds, flexor surfaces of elbows and knees, and peri-anal region were dark brown, with some eczematous scaling; the upper surface of the penis and the scrotum were deeply pigmented; inner sides of thighs were dark brown and the legs a light yellow. The palms and soles were free; sclera normal; mucous membranes unpigmented; urine negative; pulse strong. Keratosis of the palms and soles is a later manifestation. Although arsenic was discontinued, the palms of this boy became, one week later, scaly, thickened, and roughened. The pigmentation disappeared by desquamation. EDMUND CAUTLEY.

The significance of albumin and casts (*'Arch. of Pediat.,' vol.* XXIV, 1907, *p.* 94).—**F. E. Sondern** states that albumin, with or without casts, is not an absolute indication of nephritis, and does not necessarily indicate an inflammatory lesion. Albuminuria is abnormal. It may be due to slight disturbances in circulation, in quality of blood, or in innervation. The differential diagnosis between a simple renal disturbance and a mild or quiescent nephritis is extremely difficult. In acute nephritis with oliguria and hæmaturia there may be no casts for a day or two. Albumin or casts, or both, may be absent for varying periods in chronic nephritis, but the changes in chemical composition do not disappear. The estimation of urea is not an accurate basis for an opinion on the severity of the renal lesion. Children of 3 to 6 years secrete 1 grm. per kilo body-weight; at 8 to 11 years, 0·7 grm.; at 13 to 16 years, 0·3 grm. to 0·5 grm. A complete urinalysis is necessary. EDMUND CAUTLEY.

Sarcoma of the vagina (*'Pediatrics,' vol.* XIX, 1907, *p.* 95).—**O. L. Holmes** reports a case in a child, aged 17 months. For three months there had been a pale, reddish vaginal discharge and increasing anæmia. The discharge increased, and had a slight disagreeable odour; slight pain on micturition. Small masses were expelled from the vagina on straining at stool. The distended bladder felt like a tumour above the pubes. The vagina was filled with soft, friable, gelatinous, reddish-grey material. About 4 oz. to 6 oz. was removed by curetting. Subsequently the operation was repeated four times, and death resulted in six months. The author gives brief abstracts of twenty other reported cases in children aged six months to three years. All of them were fatal. Recurrence took place in a few weeks to two months after operation, and the average duration is twelve months. There is no metastasis. Complications occur due to the extension of the growth, such as retention of urine, cystitis, pyelitis, pyometra, peritonitis, and pyæmia. These cases are always fatal. A case of Israel's is said to have recovered; and in one of Schuchardt's the tumour did not recur for seven months. It was then removed, and there is no history of further recurrence.—E. C.] EDMUND CAUTLEY.

Anæmia infantum pseudoleukæmica (*'Arch. of Pediat.,' vol.* XXIV, 1907, *p.* 161). **H. Koplik** describes the blood changes in nine cases of marked anæmia, with enlargement of the spleen and liver, in infancy and childhood. Two were females and seven males. Their ages ranged from 11 to 20 months. Von Jaksch first described this symptom-complex in 1889, and regarded it as a specific primary anæmia. Gee in 1867 suggested the name of "lymphatic anæmia" for a similar condition. Fowler in 1892 called it "splenic anæmia in infancy," and considered it a primary anæmia. The original idea of Von Jaksch that a leucocytosis is always present has now been generally abandoned. Fischl in 1892 maintained that the blood-picture alone is insufficient for diagnosis, and that it is due to a secondary anæmia. Many others hold this view, and think the symptoms and the blood-picture depend on the fact that the anæmia occurs at an early age. Lehndorf came to the conclusion that it is a type of myelocytic leukæmia. Zelenski and Cybulski found myelocytes in various diseased conditions with anæmia and enlarged spleen, and regard their presence in infancy as due to toxins, and as of no diagnostic or prognostic significance. Hence, it appears clear that the affection is not a primary blood condition or myelæmia. The blood examination of Koplik's cases yielded the following results: (1) Hæmoglobin, 28 to 65 per cent; (2) erythrocytes, 1,400,000 to 4,480,000; (3) leucocytes, 5200 to 80,000; (4) normoblasts and megaloblasts up to 15 per cent. of the total erythrocytes; (5) polynuclears, 14 to 80 per cent. of total white cells, sometimes varying in the same case from 15 to 40 per cent. within a few days, showing that the relative proportions of polynuclears and lymphocytes is of no diagnostic value; (6) myelocytes, 0·5 to 7 per cent., varying from 0·5 to 4·5 per cent. in the same case at different times; (7) eosinophiles, in normal numbers; (8) mast cells, 1 to 4 per cent. A study of the blood in the uncomplicated cases indicated that the condition is a severe anæmia in infants, in whom any disturbance of the blood-forming organs causes a retrograde to the fœtal structure. Although the blood-picture is not specific, the clinical features of these cases are characteristic. There is a striking uniformity in pathological data, but there is nothing pathognomonic in the anatomical changes in the spleen, bone-marrow, liver, and other organs. The spleen is enlarged through increase in the connective tissue. The clinical picture is that of anæmia, with tumid belly, enormous spleen, enlarged liver, and intestinal disturbances. The fact that some such cases recover completely suggests that the affection is due to a severe disturbance of the nutritive functions of certain organs, such as the intestines and its secretive glandular system, reacting on the spleen, and causing changes in the blood. The disease is, therefore, a severe secondary anæmia, with or without marked leucocytosis. If it ends fatally, it is because of intercurrent disease, such as pneumonia or tuberculosis. It does not terminate in true leukæmia. EDMUND CAUTLEY.

Acute alcoholism ('*Arch. of Pediat.*,' 1907, *vol.* XXIV, *p.* 108).—**S. W. Moorhead** reports two cases, brothers, aged 5 and 7 years, who were found unconscious in a room with a man apparently in a drunken stupor. The main symptoms were slight cyanosis, subnormal temperature, pulse full and soft, widely dilated pupils, which reacted feebly to light. Magnesium sulphate, introduced by stomach-tube, caused vomiting. The younger boy was conscious, but somewhat stupid next morning, and was discharged cured on the following day. The elder boy became semi-conscious for about an hour, and then had a general convulsion, followed by convulsive movements of the arms, and, to a less extent, of the legs, and persisting until evening. The heart failed rapidly, cyanosis ensued, and the breathing became almost of Cheyne-Stokes' type. Temperature rose to 103° F. in the evening. On the next day he was restless and irritable. Subsequently he had incontinence of urine and fæces, an irregular, intermittent pulse, three more attacks of convulsions, increasing frequency and irregularity of pulse, hallucinations of sight and hearing on the fifth day and lasting for two days, followed by mental weakness for a week. After that he recovered completely. The most constant symptom of acute alcoholism is loss of consciousness, immediately, or several hours after taking the drug, according to the size of the dose. Its duration varies from a few hours to days, and is said by some to last even for weeks or months. The body temperature is almost invariably subnormal at first, even when there is no exposure. Later, there may be fever. Clonic and tonic convulsions occur with less frequency. In severe cases there may be opisthotonos. True delirium tremens is rare.

EDMUND CAUTLEY.

Sudden death in congenital syphilis (*'La Clin. Infant.,' January*, 1907, *No.* 2, *p.* 39).—**Brelet** describes the case of a boy, aged 2 months, brought to the hospital suffering from marked congenital syphilis. He had sero-purulent coryza and a papular rash on the buttocks and thighs. He was fed by bottle, and injections of biniodised oil given, of which he had six. His weight diminished from 3 kg. 150 to 2 kg. 970. Ten days after admission he was found dead in his cradle. The autopsy showed no macroscopic alterations, except the spleen, which was hypertrophied and hard. Thymus not enlarged (7 grms.). In some instances these children are born sickly, stunted, and destined for an early death, but it is important to recognise that others, in a fairly good condition, who seem to thrive, after a few days or weeks die almost instantaneously, and with no apparent morbid conditions. In many of these cases, even after an autopsy, the death is unexplained; the children seem to die as the result of congenital unfitness for life than from any morbid and superadded cause. Sometimes interstitial pneumonia is found (Heller), and sometimes lesions of the myocardium (Berghinz).

VINCENT DICKINSON.

A case of acute thyroiditis (*'La Clin. Infant.,' April*, 1907, *No.* 8, *p.* 232).—**Roland** reports the case of a boy, aged 14 years, who was seized with sore throat and complete aphonia. Nothing was found in the larynx, but the thyroid was swollen, painful, and tender. There was coryza and some purulent rhinitis. The swelling, together with the febrile symptoms, disappeared in four or five days. The interest of the case lies in the absence of apparent cause, most cases of thyroiditis being secondary to some infectious malady, especially typhoid fever. Here, however, the thyroiditis was primary, and accompanied by rise of temperature, general disturbance, and ending in resolution with subsidence of all the symptoms. **George Carpenter** reported a primary case in a rickety boy, aged 14 months, in the *Reports of the Society for the Study of Disease in Children, vol.* iii, *p.* 157, 1902-3. It was attended by abscess formation. He made a good recovery.

VINCENT DICKINSON.

Congenital paroxysmal cyanosis (*'La Clin. Infant.,' April*, 1907, *No.* 8, *p.* 235).—**Leconte** describes two cases: (1) A child, aged 3½ years. The first attack occurred when three years and five months old, and the paroxysms were repeated frequently, with sudden onset and without cause.

The child often complained of pain in the legs; did not cry out; if alone, she leant against something or sat down; if with her mother, she ran to her lap, "if not she would have fallen." She suddenly became blue; cheeks, lips, and ears "black as ink"; eyes half closed and moist. The child limp and half conscious. Respiration noisy and difficult. The attack lasted two or three minutes. There were never any convulsions, nor did they occur during sleep. There was a loud, rasping, systolic bruit, marking the second sound, with maximum intensity in second left intercostal space, conducted towards the left clavicle. (2) A child, aged 4½ years. There was transposition of the viscera, a loud systolic murmur in the second right intercostal space, conducted feebly towards the clavicle. The attacks commenced at the age of two years, and were accompanied by attacks of coughing; otherwise they were of the same character as the previous case. VINCENT DICKINSON.

The early diagnosis of tuberculous bronchial glands in children (*'La Clin. Infant.,' March*, 1907, *No.* 6, *p.* 173).—**A. D'Espine** recommends auscultation of the neck behind the cervical vertebræ with a stethoscope having a small chest-piece. The vocal resonance in the healthy child ceases suddenly at the level of the spine of the seventh cervical vertebra, where the lungs begin. Where the glands are affected, on the contrary, the resonance is heard over an area which varies between the seventh cervical and the fourth or fifth dorsal. This area, as De Mussy and Baréty have shown, corresponds to the last portion of the trachea and to the bifurcation of the bronchi. This posterior gland region is the one most often attacked by tuberculosis; the vocal resonance is accentuated by the chain of enlarged glands which press on the air-passages. The stethoscope is only useful to limit the seat of the bronchophony, which is heard sometimes over the four first dorsal, and sometimes only over one of them, or the seventh cervical. Sometimes, also, when the glands are much affected, the bronchophony extends to the level of the vertebral lamina, more often to the right than to the left. Bronchophony is the earliest, and often the only, sign of bronchial adenopathy, but in certain cases modifications in percussion over the back of the dorsal or seventh cervical vertebræ are found in addition. Marked dulness at this level always coincides with an intense bronchophony. Bronchial breathing over the vertebral column is not an early sign; it always indicates marked involvement of the glands. The author describes a case of a girl, aged 11 years, reared in the most favourable hygienic surroundings, who was seized with fever, lasting three weeks, without appreciable cause. Bronchophony over the dorsal vertebræ, with anæmia, led to the diagnosis of bronchial adenopathy. Pericarditis and ascites supervened, and at the seventeenth month the patient succumbed to an attack of typical tubercular meningitis. The autopsy showed tubercular bronchial glands, no pulmonary tubercle, tubercular pericarditis, a large, nutmeg, non-tubercular liver; tubercular mesenteric glands, but no tubercular peritonitis.

VINCENT DICKINSON.

Sudden death in infants with eczema (*'Rev. Mens. des Mal. de l'Enf.,' March*, 1907, *p.* 131).—**Brelet** furnishes an interesting review of this subject. The sudden or rapid death which has been several times observed in infants with eczema has given rise to the popular superstition that the skin should, in such cases, be left untreated. These accidents are due to the eczema, sometimes by secondary infection from the skin, sometimes by intoxication with an organism. The former method is illustrated by a case published by Bernheim in 1894. A child, aged 4 months, was brought to the hospital for eczema of the head, chest and arms. The night after admission he was found dead in bed. At the autopsy lesions of acute enteritis were found, enlargement of the spleen, œdema of lungs, parenchymatous degeneration of the liver. The blood and pericardial fluid contained three kinds of bacterium: a white staphylococcus, a yellow staphylococcus, and a diplococcus. Diplococci were also found in the pulmonary alveoli. and in the skin of the regions affected by the eczema, in the deep layers and lymphatics. Bloch mentions the case of a child, aged 8 months, who had suffered for five weeks from an eczema, with sero-purulent secretion. After treatment for eight days with boric and zinc pastes the eczema was cured, but the child died suddenly with convulsions. Simon reports a case where thrombosis of the sinuses was found, and Castenholz saw, at Cologne, a series of sudden deaths after treatment of discharging eczemas by ointments, and in which nothing but hyperæmia of the sinuses was found. On abandoning this line of treatment no more deaths occurred. According to Castenholz the sudden death is attributed to the fact that the cutaneous respiration, already impeded by the eczema, is annulled by the application of ointments over a large surface. In 1903 Cohn published the case of a child, aged 15 months, who developed, during the course of an energetically-treated eczema, symptoms of nephritis and then suddenly died. Cohn supposes that the lymphatic glands, increased in size in the neighbourhood of the regions attacked by the eczema, store up the products of toxic absorption or micro-organisms. When the eczema is cured the glands subside, but if the cure be too rapid a too rapid absorption of toxins or staphylococci from the glands may take place, giving rise to renal lesions and perhaps sudden death. Borland reports a curious and unique case: an infant, aged 3 months, suffering from eczema, vomited blood and died in the third attack of hæmatemesis. Autopsy: on the posterior wall of the duodenum, near the pylorus, was an ulcer, with perforation. Borland explains this ulceration by a septic infection from the skin, and compares it to the duodenal ulcer consecutive to extensive burns of the skin. Heubner and Feer found, at the autopsies of these cases of sudden death in eczema, all the signs mentioned by Paltauf characteristic of the *status lymphaticus*, to which he attributes it. Feer reports thirty cases which presented these characteristics: in thirteen of them with autopsies death was due in ten instances to the status lymphaticus, in the other three the causes of death were hyperpyrexia, acute septicæmia, and salicylic acid poisoning. Feer's conclusions must be accepted with reserve, but it seems proved that in some cases the death is dependent on the eczema, either produced by septic infections from the skin or from the sudden disappearance of the eczema and the passage of toxins into the circulation, which should otherwise have been eliminated by the skin. This view has been adopted by Boulloche and Grenet with regard to a case of severe collapse in the course of eczema in an infant, which eventually got well. Bad states of nutrition and disturbances of renal elimination in the eczematous must also be taken into account. The infant suffering from eczema, then, is in a state of chronic intoxication; he is thus more exposed to septic poisoning, and at certain moments, which sometimes coincide with a too active treatment, a more rapid absorption of toxins may conduce to sudden death by different modes, and perhaps also the lymphatic state must be taken into consideration, which is itself, no doubt, a condition of auto-intoxication.

VINCENT DICKINSON.

The meningitis of mumps (*'Rev. Mens. des Mal. de l'Enf.,' February, 1907, p. 78*).—**A. Feliciano** deals with this subject in his 'Thèse de Paris,' 1907. The onset may be sudden, occurring on the second or third day, or later, or the eighteenth or nineteenth, when the infection seems at an end. Headache is almost constantly met with, nausea and vomiting frequent, constipation the least usual symptom and never obstinate, nor has abdominal retraction been observed. There is always an elevation of temperature, either an increase of the existing fever or a fresh outbreak if it had already fallen. The frequency of the pulse is not proportionate to the height of the fever; sometimes there is a true bradycardia. Delirium is frequent, convulsions are rarely noticed, while retraction of the neck and Kernig's sign are frequent. Cutaneous hyperæsthesia and photophobia are often met with. Ocular troubles are inconstant. Paralysis may supervene, especially facial, which may be determined by compression by the enlarged parotid. Three forms may be distinguished: the mild form with rise of temperature, headache and slowness of pulse; ordinary forms with headache, vomiting, bradycardia, retraction of neck and Kernig's sign, etc., which diminish after two or three days and end favourably; the grave form with violent delirium, very high temperature, convulsions, and often rapidly fatal.

Vincent Dickinson.

A case of bilateral empyema; double pleurotomy (*'Lyon Méd.,' November, 1906, No. 45, p. 751*).—**J. Mollard** and **P. Cuichard** publish the case of a girl, aged 15 years, who had been nursing her mother for pneumonia when she fell ill herself with feverishness and pain in left side followed by right. On admission into hospital she was cyanosed, intensely dyspnœic. Respiration 40 per minute; pulse 120; temperature 40·3 C. Exploratory puncture revealed pus in both pleuræ containing pneumococci. Thoracentesis evacuated 300 gr. from the left and 150 gr. from the right pleural cavity. About ten days later the symptoms became suddenly worse and the thoracentesis was repeated without benefit, 500 gr. and 450 gr. being taken. A week later pleurotomy was performed on the left side under local anæsthesia with stovain and more than a litre of pus escaped. Relief followed for two days, when, on the return of alarming symptions, a similar operation was performed on the right side. Immediate relief followed and complete cure ensued. The case is interesting because (1) the purulent pleurisy developed very early, *i.e.* only three or four days after the occurrence of the pneumonia; (2) the two pleuræ were attacked simultaneously and equally, whereas in the majority of cases the two empyemata appear one after the other at an interval of a few days to several months.

Vincent Dickinson.

The relationship of diet to the body-weight and temperature in cases of infantile gastro-enteritis (*'Rev. Mens. des Mal. de l'Enf.,' February, 1907, p. 49*).—**L. Rivet** has made some interesting observations on these cases in Professor Hutinel's clinic as regards the favourable or unfavourable modifications obtained by the aid of various dietatic *régimes*. (1) In the period of acute symptoms: The temperature is raised; the body-weight is lowered by a water diet, then continues to fall but very little if the child is put on butter-milk or on any other salt-free diet, when it is maintained or even increased if the infant is put upon vegetable broth. (2) In the period of wasting: The acute symptoms have passed off and there is no longer fever, but the stools are not yet quite normal, ordinary diet could not be given; if the infant is put upon butter-milk or starchy foods loss of weight takes place which lasts a longer or shorter time according to the gravity of the gastro-intestinal trouble, and often continues after ordinary food is resumed even though the child passes normal stools. (3) Water diet is the best way to counteract the acute symptoms, and when they have not passed off after twenty-four to forty-eight hours the use of starchy drinks exerts a sedative action. (4) Vegetable broth delays the onset of the period of wasting, but does not prevent its occurrence; its use may give rise to retention of chlorides with dropsy. (5) Re-alimentation by butter-milk almost always gives rise to a more or less severe febrile attack, *butter-milk fever*, which is the less severe the longer it is resorted to after the acute phase. (6) The period of wasting may be prolonged for a considerable time after the clinical cure of the enteritis, and even merge into a state of advanced cachexia of a *pseudo-Addisonian type*. (7) In hospital practice secondary infections may always be reckoned upon, which are the most severe in debilitated subjects and may cause death by septicæmia with sub-normal temperature or give rise to local suppurations which retard convalescence. (8) The gradual augmentation of weight in convalescence may be produced by all diets; suckling is the best, but in some cases raw meat must be given. (9) In some cases cachexia and febrile attacks continue in spite of every kind of diet; in these tuberculosis should be looked for. VINCENT DICKINSON.

Relapses in measles (‘*Lyon Méd.*,’ *January*, 1907, *No.* 3, *p.* 98).—**E. Weill** and **L. Dauvergne** publish this case in a boy, aged 5 years. The first attack took place May 15, 1906, with the classic symptoms of typical measles of medium intensity; the eruption was normal, lasted four to five days, then gradually disappeared. On June 13 the child, who had for six days shown an unexplained rise of evening temperature, had a second eruption, especially localised on the face, with buccal affection, coryza, lacrymation; the eruption, which only lasted thirty-six hours, had not the intensity of the former. Between these two attacks an outbreak of urticaria occurred, with a temperature of 39° C., which lasted ten days. It was probably caused by a preventive injection of 5 c.c. anti-diphtheritic serum. About four days after the first relapse the child's temperature, which had never fallen below 37° C., rose to 40° C., and the next day, *i.e.* June 19, a distinct morbillic eruption appeared on the face and thorax. In this second relapse the eruption was more intense, and lasted from June 20 to 27, and was followed by a general brawny desquamation. There was no sore throat or abnormal rapidity of pulse, no albumin or other signs suggestive of scarlatina, besides which the eruption was typical. Convalescence was normal. VINCENT DICKINSON.

School hygiene in the Argentine Republic (‘*La Semana Medica*,’ *March* 28, 1907).—This is a valuable report on the principles involved and the results hitherto obtained in the medical inspection of schools and children in Buenos Aires. It may interest British educationalists to learn that since the year 1888 the National Argentine Council of Education has a well-organised medical department in Buenos Aires and in many of the other large cities. The medical officers are chosen after having received a special training, technical and practical. The general hygiene of all the schools receives, of course, its due care; apparently all the old buildings have now been carefully altered, whilst the new ones are constructed in accordance with the views of the medical authorities. These views will be found in the report. It is believed that during this year each school will receive a daily visit from the doctor. Hitherto there have not been enough doctors to make this possible. Evidently great care is already given to prevent the spread of all infectious diseases, whilst during the term all the children, at some time or other, come under medical inspection, each doctor seeing at least two hundred a month. The diseases noted include dental caries, anaemia, eye troubles, heart and lung affections, etc. A very careful psycho-physiological examination showed seventy-nine mental deficients in the period 1904–1906. These are dealt with in special schools, *as are likewise the children of feeble physique*, including all those with a tuberculous tendency. Indeed, in 1894 the proposals were first made to send these children to parts of the country climatically suitable. There are now to be three establishments each constructed for 250 children, one situated at the sea-coast, another in the plains, and a third in the mountains. The children are grouped into three medical divisions—anaemic, scrofulous, and neuropathic. Ten years hence, when we shall have decided that the medical inspection of school-children might have experimental value, I should advise a complete translation and study of this report. It would be waste of time now. By then Buenos Aires will possibly have found it feasible to abolish the special schools.] M. D. EDER.

Twenty-two cases of infantile mongolism ('*La Semana Medica*,' *March* 28, 1907).—**Zubizaretta**, after recounting the general features of this condition, gives the clinical history of twenty-two cases which came under his care in 1906 at the Children's Hospital. The summary is—Father: 20 to 30 years old, three cases; 30 to 40 years, four; 40 to 50 years, eight; 50 to 60 years, three. Mother: 15 to 20 years, one case; 20 to 30 years, six; 30 to 40 years, four; 40 to 50 years, nine. Confinement: 1st to 5th, eight cases; 5th to 10th, five; 10th to 15th, seven; 20th to 25th, one. Syphilis in twelve cases, alcoholism ten. In eighteen cases it was the last child, and in four the last but one. The sexes were equally divided, and in two cases there was a similar affection in another child. Nothing of importance was found in three cases. Zubizaretta concludes: "Mongolism is a morbid entity to be diagnosed solely by the physiognomic type. Its pathology is unknown; moral and physical troubles of the mother during her pregnancy, syphilis, and alcoholism play an important part in its causation." M. D. EDER.

Hygiene in public schools ('*Canada Lancet*').—**Fagan**, in an address to the Teachers' Convention, said that acquired knowledge can be learnt later in life, but he believed strongly in teaching habits of steady application and industry. The first cause of over-strain is mental and bodily deficiency, and any teacher who accentuates the difference by holding up to personal ridicule is unfit for his post. This produces want of self-confidence and self-respect. Honest work hurts nobody, but the present-day system of cramming is fatal to most of our young people. Less than half the prescribed work, properly mastered, would make good and useful citizens, whereas a smattering of everything leads them to seek positions for which they are not qualified. An accurate habit of thought and expression is one of the rarest acquirements, and is the distinguishing mark of good or faulty teaching, of real and unreal learning. Teach children to know what powers they possess, and to use those powers: this cannot be done as geography or

Euclid is taught, but only by judicious training. [The editor recommends the perusal of this paper by those officials who determine the course of education in our board schools.] J. Porter Parkinson.

The pseudo-paralysis of rickets ('*L'Echo Méd. du Nord,*' *March*, 1907).—**Deléarde** remarks on the weakness of the limbs and the tenderness of the enlarged epiphyses which occur during the acute stage of rickets and disappear gradually under treatment. He says the tenderness is easily accounted for if one considers the relaxed ligaments, the want of ossification, and the congestion in the neighbourhood of the joints; and as any movements cause pain the limbs are kept at rest as far as possible, and there is no nervous causation for the pseudo-paralysis. He records a case of marked rickets, in which the child did not move unless stimulated in some way, and every movement caused considerable pain. The electrical reactions of the muscles and nerves were normal. The disease simulating it most nearly is the pseudo-paralysis of hereditary syphilis, but this invariably occurs in infants under six months of age, and pain is absent. He discusses infantile scurvy, and states that none of the classical symptoms were present in the case quoted. [Most English physicians will agree with Dr. Ashby in considering that considerable tenderness in rickets points to a slight degree of scurvy being present.—Ed.] J. Porter Parkinson.

Spontaneous hæmorrhages in the newly born ('*Canada Lancet,*' *April*, 1907).—**H. T. Machell** gives details of fourteen cases, and draws the following conclusions: The causes are hæmophilia, septic infection, syphilis, head injuries, too early ligature of the cord, plethora, debility, ulcer of the stomach or bowel, jaundice, feeble coagulation of the blood, defect in the wall of the capillary vessels. The bleeding begins before the end of the third day, in a gradual manner; the amount of blood varied considerably. The blood came most frequently from the stomach or bowel, in only two cases from the umbilicus, and in six under the skin. Half the infants died. In none of the cases was there any history of hæmophilia or syphilis. The prognosis depends on the amount of blood lost. Calcium chloride, adrenalin, and gelatin were the drugs used, but it was doubtful whether any of these remedies had any effect on the bleeding. J. Porter Parkinson.

Primary ocular diphtheria ('*South Califor. Pract.*').—**F. W. Miller** reports a case in a girl, aged 9 years; on the third day the eyelids were œdematous, purplish-red, with a thin, blood-stained, sero-purulent discharge. The pre-auricular glands were enlarged and tender, and on the cheek, just below the affected eye, was a shallow ulcer, covered with a typical greyish membrane, which caused bleeding when removed; a similar membrane covered a portion of the conjunctiva. A culture showed the bacillus of diphtheria. With antitoxin and local treatment the eye rapidly cleared up.
J. Porter Parkinson.

Results of the "Consultation des Nourissons" at Bouscat ('*Journ. de Med.*').—In the department of the Gironde in 1000 deaths there were 128·5 under a year old, and at Bouscat the mortality was 175·86 per 1000. In the town hall of this municipality each Wednesday the infants were undressed and weighed, and examined by a doctor. Some of these infants were breast-fed, and then it was easy to obtain good results, while for the poor mothers in an adjoining institute the necessary quantity of milk for the day was given out, and at the same time a pamphlet of directions on feeding and hygiene. During two and a half years 208 infants were treated, many of whom were suffering from gastro-intestinal troubles. The mortality was only 7·69 per cent. Every encouragement was given to breast-feeding, with the result that 53·75 per cent. were so fed, and 22·40 partly on the breast. Of the infants who died not one was a regular attendant, and they were nearly all bottle-fed. The results were, therefore, most encouraging, and will give fresh energy for the formation of new institutions. J. PORTER PARKINSON.

Unexpected death in infectious diseases in children (*'Die Heilkunde,' April*, 1907).—**Czerny** thinks that this is produced by two factors: anomalies of the nervous system and over-nourishment. In spite of the family doctor's favourable prognosis, Czerny had often been called in as consultant by the parents, whose anxiety was due to there having previously been unexpected deaths in the same family. Before their fatal illness the children were regarded as nervous, and were also fat and pasty. In such cases, sudden failure of the heart may be produced by certain therapeutical measures. Thus, one child who had a mild attack of bronchitis died after the first application of a pack, and another died after the injection of serum for diphtheria on the first day of disease. In epidemics of scarlatina the highest mortality occurs among the children of the well-to-do classes, in whom over-feeding is naturally more prevalent. The chief objection to over-feeding is that children so treated show less power of resistance to disease, and are especially exposed to the danger of heart failure. This applies particularly to children of psychopathic families. J. D. ROLLESTON.

Re-infection in hereditary syphilis (*'Ann. des Mal. Vénér.,' January*, 1907).—**Rostaine** adopts Gaucher's division of hereditary syphilis into secondary, tertiary, quarternary or parasyphilitic, and quinary forms. The lesions of the first three are the same as those of the corresponding forms of the acquired disease. Quinary syphilis is peculiar to the hereditary disease, and is characterised, not by active lesions, but by congenital dystrophies. Hitherto there have been no observations published of syphilis acquired by heredo-syphilitics with secondary lesions, who thus seemed to have gained immunity in regard to further infection. Re-infection in heredo-syphilitics with tertiary lesions is rare. Out of 9000 patients in Gauchers's clinique in the course of the last four years there were only six undoubted cases. Acquired syphilis is much commoner in the quaternary and quinary forms. Rostaine has collected fifty such cases.

J. D. ROLLESTON.

Confluent hæmorrhagic varicella (*'Lancet,' May* 18, 1907, *p.* 1359). —**Porter**.—A girl, aged 13 years, suffering from eczema of the face and hands, was attacked with varicella. The lesions at first were scanty, but on the fifth day the vesicles had become confluent in three places on the forehead and neck. On the sixth day hæmorrhages took place into these areas. There was little constitutional disturbance, and the patient recovered, but considerable scarring resulted where the rash was confluent, and in two places keloid developed. J. D. ROLLESTON.

Physiological albuminuria in children (*'Berlin. klin. Wochens.'*) **Ullmann,** after examining the urine of forty-two healthy children between the ages of two and a half and thirteen years, found that one third had albuminuria without presenting any other signs of nephritis or any indication of ill-health. He suggests, therefore, that the passage of albumin must be considered as a physiological condition in early life. In many cases the tendency disappears as the child grows older, and when it is found in adult life it must be considered as a persistence of the early condition. Leube regards the albuminuria of puberty as a definite disease, but the author cannot agree with him, and suggests that the condition should be called juvenile physiological albuminuria in the absence of any other manifestation of disease. No treatment is of any avail as the tendency is either outgrown or persists in spite of therapeutics. It has no effect on the patient's health or length of life, and may be ignored in the course of examination for life insurance. A case of Heubner's is quoted in which typical static albuminuria was present in a girl, aged 10 years, who died a year and a half after she came under observation from cerebellar tumour. A considerable quantity of albumin was present when the patient was up, but none when she was lying down; casts were never present. At the post-mortem the kidneys were found microscopically to be normal, the only changes, such as a well-marked hyperæmia and slight fatty degeneration of the parenchyma, being consistent with the terminal illness. One minute spot of fibrosis, it is true, was found after a careful search, but Heubner considers that neither this nor the other changes were accountable for the albuminuria, and that consequently the condition may exist without any gross or microscopical lesion. The necropsy revealed the presence of an old pulmonary tuberculous focus, thus supporting the view of French authorities that static albuminuria is not infrequently a pre-tuberculous manifestation.

T. R. Whipham.

Congenital malaria (‘*Arch. de Med. des Enf.*,’ *January*, 1907).—**Pezopoulos** and **Cardamatis** report six cases in which the mother was suffering from malaria at the time of her confinement, In all the cases the malarial parasites were found in the maternal blood, but they were absent from the blood of the offspring, four being children born at full term and two fœtus. The examinations were made within a few hours of delivery. No parasites were found in the blood of the liver or of the spleen in either fœtus. In five cases the placental blood was examined, and though abundant parasites were present on the maternal surface of the placenta, none could be found on the fœtal side, or in the blood of the umbilical cord.

T. R. Whipham.

Entero-colitis and appendicitis in childhood (*These de Paris*, 1906; ‘*Interstate Med. Journal*,’ *May*, 1907.—**Roy** states that among children with muco-membranous enteritis a goodly number suffer from appendicitis. It is, however, difficult or even impossible to recognise the exact time at which the appendix becomes affected, because the clinical reaction occurs much later than the anatomical lesions. In these children appendicitis shows itself in all its forms, acute, subacute, or chronic, and with or without general peritonitis. In many cases the origin of the muco-membranous entero-colitis in childhood is to be found in adenoid vegetations, either already removed or still present. These adenoids are the source of an intermittent oral infection which creates digestive disturbances of various kinds, thus preparing the way for the entero-colitis. A child with such muco-membranous entero-colitis who has had one attack of appendicitis will probably have others at greater or less intervals. It is impossible to forecast the form which the appendicitis will take, although we know that in the child the grave forms are more frequent than in the adult. If, in these children, the appendicitis is latent or very mild, they should be kept under close observation and medical regimen, so that operation may be performed at once if necessary. In the cases of acute appendicitis internal operation is recommended, without waiting for several attacks.

JAMES BURNET (Edinburgh).

Thymus stenosis and death due to pressure of the thymus gland (*'St. Paul Medical Journal,' January*, 1907, quoted from *'Arch. für klin. Chirurg.,' November*, 1906).—A large hyperplastic gland in many cases is capable of exerting pressure upon the organs lying in the mediastinal space. This pressure is exerted, in most cases, upon the air-passages, less frequently upon the heart and great vessels. This condition of pressure has often been disputed, and in a careful and thorough research by Friedleben it is asserted that there is no pressure upon the air-passages, vessels, or nerves on the part of the thymus gland. This was so generally accepted that in vain Virchow and Cohnheim demonstrated that pressure due to the thymus gland had sometimes resulted in death. The tracheo-bronchial stenosis due to pressure by a hyperplastic thymus is a clinical and pathologically proven affection not to be confounded with spasm of the glottis. It occurs more frequently than is generally supposed. The objective symptoms differ according to the degree of stenosis. There are transitions from an apparently harmless stridor of infants to a case of dangerous dyspnœa with slow, suffocating death, or sudden death due to a total compression of the air-passages. The stenosis may make its appearance slowly or suddenly; recovery may take place spontaneously or death may ensue without warning Even in the apparently harmless cases in which the patient seems to suffer no discomfort the prognosis must be very guarded, because a sudden and unexpected change in the disease may make conditions grave. The indication for immediate operation is when suffocative attacks occur. Time and experience will tell whether or not to operate prophylactically. Operation is directed to removing the obstruction. The operations that have been performed so far have not only been associated with good results, but have been relatively simple and free from danger. Anæsthesia is neither necessary nor yet advisable. JAMES BURNET (Edinburgh).

Case of diabetes insipidus (*New York Acad. of Med.: Section on Pediatrics, January* 10, 1907; *'Med. Record,' p.* 331).—**Eli Long** presented a case of this nature in a boy, aged 11 years. The symptoms began after meals eight years before. The twenty-four hours' urine averaged fourteen pints and was often eighteen. No other case in the family was mentioned. In the discussion that followed several other cases were referred to.

ERNEST JONES.

Enlargement of the epitrochlear glands in children (*New York Acad. of Med.: Section on Pediatrics, January* 10, 1907; *'Med. Record,' p.* 332).—**Alfred F. Hess** read a paper on this subject. He was led to the study of it by examining a series of children under two years of age for other glandular enlargements. These were absent in only 6 out of 225 children. Enlarged posterior cervical glands were in the commonest found—in 173 out of 197 cases. Then came enlarged inguinal glands in 119 out of

147 cases. Of 300 children whose epitrochlear glands were specially examined for, one enlarged gland was found in a number of cases, and no importance was attached to it. Small bilateral glands were felt in 26 cases. Large bilateral glands were felt in 15 cases. The evidence for the syphilitic nature of these was discussed. Hess considers that syphilis is the commonest cause, and that an enlargement of the spleen and epitrochlear glands may be regarded as good evidence of syphilis. ERNEST JONES.

Pigmented spots in the sacral region of white and Negro infants (*New York Acad. of Med.: Section on Pediatrics, February* 14, 1907; '*Med. Record*,' *p.* 456).—**Chas. Herrman** read a paper on this subject. In Japan 90 per cent. of the infants show these spots. Fujisawa, at Munich, had found them in white children in 1 in 400 cases. Herrman found them in 30 per cent. of negro children. The characteristic pigment cells are present in 40 per cent. of white children, but are rarely grouped sufficiently closely to form a patch visible to the naked eye. The patches are variable in size, they are not raised above the surface, did not change on pressure, they show no hair or blood-vessel formation; they always disappear before the end of the second year and sometimes sooner. ERNEST JONES.

A note on the reducing power of the urine following the administration of urotropine ('*Boston Med. and Surg. Journ.*,' *No.* 12, 1906).—**J. A. Abt**, at the Eighteenth Annual Meeting of the American Pediatric Society, reported a case of pyelitis, in which urotropine was administered in increasing doses. The child did well, but after a time appeared to develop a severe glycosuria, the statement being that there was 2 per cent. of sugar. There was a very definite reduction of the copper solution. The polariscope showed no rotation to light. The conclusion finally arrived at was the reducing power of the urine was due to the urotropine. A number of children in hospital were then tested with urotropine, and similar results obtained. The following general conclusions were reached: (1) That the administration of urotropine will cause the urine of reduce copper solutions; (2) that reduction to the bismuth test is not ordinarily caused, and no action is produced upon polarised light; (3) that albuminuria may be produced; (4) that the existence of nephritis prevents the reaction by causing diminution in the permeability of the kidneys.

E. P. BAUMANN (Johannesburg).

The relation of sexual life to nervous and mental disease ('*Münch. med. Wochens.*,' *No.* 37, 1906).—**G. Aschaffenburg** considers that masturbation is never the cause of disease in normal persons. Where it is excessive and long continued it is usually a symptom of either mental disease or degeneracy; in constitutionally neurotic subjects it produces symptoms only through its effect on the mind. In common with most modern authorities the writer believes that chastity itself produces no harmful effects, except in those cases in which the subject fears that harm may come from continence. E. P. BAUMANN (Johannesburg).

On enuresis as a neuropathic condition depending upon adenoid vegetations ('*Wien. med. Presse*,' *No.* 52, 1905).—**Lange** has observed this symptom in thirty-nine children, varying in age from 3 to 10 years. There were twice as many boys as girls. In eight cases there were adenoids, in three hypertrophic nasal catarrh. After removal of adenoids there was no result in seven, a doubtful result in one. Lange, therefore, believes that the accepted theory that enuresis depends upon adenoids is incorrect; he thinks that it depends upon a neuropathic condition and recommends arsenic, iron, and iodine. [In two recent cases of my own, in which enuresis was a prominent symptom, the latter ceased fourteen days after removal of the adenoids—a remarkably suggestive fact, as fourteen days is about the time that it takes for the naso-pharynx to completely heal.—M. Y.]

Macleod Yearsley.

Pathology.

Nutrition and the nervous system in infancy ('*Wien. klin. Wochens.*,' *No.* 27, 1906).—**Quest** deals with the influence of certain foodstuffs on the irritability of the nervous system in young children. Breast-fed infants rarely suffer from tetany, in contra-distinction to bottle-fed children. The former, too, almost invariably show normal electrical reactions, whereas the latter very often present an abnormal galvanic irritability with a tendency to convulsions. Working on the lines of Labbatani, who stated that convulsions may be caused by the extraction of lime salts from the cerebral cortex, and conversely that irritability of the motor centres is brought about by the addition of them, Quest attempted to discover whether a diminution of lime in the body, especially in the central nervous system, was the cause of convulsions in infants. The brains of children who had died from tetany were found to contain only a small quantity of lime salts. Likewise the experimental feeding of puppies with food deficient in lime salts, while control animals were given a mixed diet containing lime, resulted in the production of a state of increased peripheral irritability resembling tetany. On the other hand, no increased irritability could be discovered on electrically stimulating the cortex of the brain, nor any difference in the quantity of lime salts contained in the brain as the result of an analysis after death. Although a deficiency of lime in the food may give rise to a spasmodic condition in the course of experiment, it is impossible to assert, owing to our imperfect knowledge concerning calcium metabolism in the human being, that a cure is possible by increasing the lime in the dietary of children. As a matter of fact this condition of nervous irritability occurs when the infant is being fed on cow's milk, which is richer in lime salts than human milk. Probably the form in which lime is administered is as important as the other constituents of the food, which aid in its metabolism. The author considers that possibly the value of treatment with phosphorus is due to the power of retention of calcium salts which it exerts.

T. R. Whipham.

Epidemic cerebro-spinal meningitis ('*Rev. of Neurol. and Psychiat.*,' *April*, 1907).—**Fowler** reports the conclusions which he has arrived at as the result of a study of twenty-three cases, with fourteen post-mortem examinations. The commonly accepted ætiology is that the micro-organisms gain access to the brain from the nasal cavity. In support of this view the author finds no clinical or pathological evidence in his series of cases. The facts tend to show that the cord lesion is primary, and that the diplococcus invades the nervous system through the spinal meninges. In most cases the post-mortem appearances indicate that the cord lesion is of older standing than that of the brain. The constant early and complete abolition of the abdominal reflex seems to point to the early implication of the lower dorsal cord. The therapeutic effect of lumbar puncture was found to be minimal, but from the point of view of diagnosis this procedure was of the greatest importance. The characteristic symptoms of the disease at first are often so slight that a diagnosis is impossible without the examination of a specimen of cerebro-spinal fluid. T. R. Whipham.

A case of empyema with a remarkable leucocytosis (‘*Brit. Med. Journ.*,’ *May* 18, 1907.)—**Bunting** records an interesting case which was under Dr. Saundby's treatment at the Birmingham General Hospital. The patient was a girl, aged 6 years. She had had an attack of pneumonia ten days before. The right chest showed empyema. The temperature was 103·4° F., the pulse 168, with a blood count of 41,500 leucocytes per c.cm. Two hours later a pint of pus was evacuated and examination revealed the presence of pneumococcus and *Streptococcus pyogenes*. The leucocytes increased in number until five days after admission they reached 214,000. The polymorphoneutrophiles were 82·2 per cent., the lymphocytes 14·8 per cent., the hyaline cells 2·8 per cent., and eosinophiles 0·2 per cent. No abnormal forms were seen. Death occurred on the same day as this blood count was made. At the autopsy no collection of pus was found in the empyema cavity into which a tube had been inserted. There was a shut-off interlobar collection of about an ounce of pus. The whole right lung was solid from recent pneumonia; at its base was a yellowish-grey necrotic area of lung-tissue resembling an abscess cavity. The left lung showed early broncho-pneumonia and early pleurisy. The extraordinary high leucocyte count is interesting as proving the intensity of the toxæmia and the extent of the patient's reaction power. That the source of toxæmia had not been removed by the evacuation of the pus from the pleural cavity was evident from the manner in which the leucocytosis advanced. The polymorphonuclear percentage, though considerably increased, does not at first sight seem to be in keeping with the degree of the toxæmia present. We must, however, take into consideration the fact that in a child of six years the normal percentage of lymphocytes is about 38, as compared with the adult maximum normal percentage of 25. James Burnet (Edinburgh).

Precocious obesity and hirsuties (‘*Brit. Med. Journ.*,’ *May* 18, 1907).—**L. Guthrie** and **d'Este Emery** described at a recent meeting of the Clinical Society two cases of considerable interest. The first was that of a boy, aged 4¾ years, 36 in. high, and weighing over 4 st. He had a general growth of hair, but the genital organs were not developed. There was general obesity, especially of the cheeks and mammæ. After death, from pulmonary tuberculosis, a hypernephroma was found on the left side; microscopically it consisted chiefly of necrobiotic cortical adrenal tissue, and many giant-cells were present. It was probably a carcinoma, but without infiltration or metastasis. The second case was that of a girl, aged 3½ years, 30 in. high, and weighing 37 lb. In three months she had grown 1 in., and had gained 6 lb. in weight. She measured 26 in. round the abdomen, 13 in. round the thigh; had general obesity with pendulous mammæ, and the appearance of a woman of fifty. The cheeks were bloated and blotchy. There were lineæ gravidarum on the thighs. Hair grew on the pubes at the age of three, but the sexual organs were not developed. At the autopsy no growth was found, but the adrenals were not examined microscopically. In both cases the pulse was very intermittent, but the intelligence was good. The cases collected by Bulloch and

Sequeira showed a condition of general obesity in the majority; nine of their cases were girls and two were boys. In twelve cases the growth was on the left side, and in two on the right. JAMES BURNET (Edinburgh).

The bacteria of scarlatinal and normal throats (*'Journ. Amer. Med. Assoc.,' vol.* XLVII, *No.* 15). **Ruediger.** The results of examinations of cultures from the tonsils of 154 cases are reported. These were: normal 51, scarlatina 75, measles 14, tonsillitis 5, pneumonia 5, pharyngitis 4. *Streptococcus pyogenes* was constantly found in great numbers in all cases of scarlatina and tonsillitis. As a rule this organism greatly predominated over others when the inflammatory condition was pronounced, and rapidly decreased in numbers as the throat symptoms subsided. When throat symptoms were mild the proportion of streptococcus colonies to other colonies was small. In normal throats streptococci were present in 58 per cent., but were always present in small numbers. The author does not, however, consider them as normal inhabitants of healthy throats. The streptococci from normal throats were slightly more virulent for rabbits than those from scarlatinal throats. In 135 throats pneumococci of low virulence were found. Klebs-Loeffler bacilli in 4 cases. *Bacillus mucosus* and *B. influenzæ* were each found once. *Staphylococcus aureus* and *citreous* and *Micrococcus tetragenus* were found occasionally, possibly as contaminations from the tongue. Gram-negative diplococci, forming brownish colonies, were frequently found, some being identified as *Micrococcus catarrhalis*. A large group of organisms which lies between the typical *Streptococcus pyogenes* and pneumococcus was found in all normal throats and nearly all diseased throats. They have little virulence for rabbits and appear to be normal inhabitants. MACLEOD YEARSLEY.

On the condition of the blood in children with adenoid vegetations (*'Zeitschr. f. klin. Med.,' vol.* LVIII, *Books* 3 *and* 4).—The blood of twenty-one children examined by **Scheier.** After removal of adenoids the large lymphocytes increase just as the small lymphocytes decrease in number. An unusually favourable influence is exerted on the blood by the operation if the children are subsequently sent to the country for four or five weeks. MACLEOD YEARSLEY.

Congenital stridor of the new-born and of infants (*'Gaz. des Hôp.' December* 15, 1906, *pp.* 1707 *and* 1743).—**Rabé** has a valuable and comprehensive article on this subject. He first defines the condition as a kind of respiration, characterised by an inspiratory noise, sonorous and continued, appearing either immediately after or within a few days of birth, and related to congenital malformation of the larynx. This definition excludes the numerous conditions in which acquired stridulous breathing appears merely as a symptom, and also constrains the acceptance of Lee's hypothesis of the laryngeal origin of the affection in question. The stridor is entirely inspiratory, though in rare cases expiration has in addition partaken of a snoring quality. It is lessened during rest and especially during sleep, though it only rarely disappears. Its continuousness is one of its most striking characters: for instance, it persists when the nose is closed, unlike adenoid snoring. The child's appearance is never anxious, though at times considerable respiratory obstruction with cyanosis and recession may occur. The condition invariably terminates benignly, never before the eighth month nor later than the third year. Most cases end between the eighteenth and twenty-second months. Still, if respiratory complications such as broncho-pneumonia supervene in such children, the prognosis is the graver on account of the presence of this condition, and six autopsies are on record illustrating this fact. The different hypotheses and the various findings, post-mortem and clinical by laryngoscopy, are fully discussed. The writer holds to the mechanical laryngeal view. The lesions found in the larynx are of two kinds: (*a*) simple inward folding of the epiglottis, so that the ary-epiglottic folds approach each other in their anterior thirds, and (*b*) a more marked incurvation so that the folds are near to each other in their whole length, leaving only a narrow chink. A good bibliography is added which does full justice to the English school that has contributed such valuable work on this subject. ERNEST JONES.

A case of malignant endocarditis following suppurative otitis media ('*Boston Med. and Surg. Journ.*,' *No.* 12, 1906).—**A. Hand**, at the Eighteenth Annual Meeting of the American Pediatric Society, reported the case of a girl, aged 11 years, suffering from this condition. On admission into hospital on the second day of the disease the patient was in a state of profound stupor with high pyrexia, meningeal symptoms, and a petechial rash. Lumbar puncture excluded meningitis, and the presence of a heart murmur, which did not date from a previous attack of rheumatism, led to the diagnosis of septic endocarditis. This was confirmed at the autopsy; in the left petrous bone there was found a purulent focus and the lateral sinus of that side was thrombosed; the spleen contained a septci infarct. Cultures from the various lesions yielded a pure growth of the *Staphylococcus pyogenes aureus*. Koplik, in discussing the case, doubted whether a sharp distinction could be drawn between rheumatic and septic endocarditis. The tendency to-day was rather to obliterate the term "rheumatic" with the idea that all endocarditis is but a degree removed from the septic forms. Morse expressed the view that these infections originated in the middle ear a great deal oftener than was generally supposed. E. P. BAUMANN (Johannesburg).

Therapeutics.

The open-air treatment of pneumonia ('*Journ. Amer. Med. Assoc.*,' *October* 13, 1906).—**W. P. Northrup** strongly advocates the open-air treatment of pneumonia. His hospital patients are put out on the roof for six hours daily in all weathers, high winds and rain or snow not being regarded as deterrents. In private houses a portion of the room close to the open window can be screened off to establish similar conditions. The patient, however, must be kept comfortably warm, especially about the feet. No harmful results and much benefit have been noted under this method of treatment. It is suggested that the treatment should prove advantageous in other septic fevers. E. P. BAUMANN (Johannesburg).

Treatment of so-called essential anæmia by subcutaneous injections of rabbit's serum ('*L'Echo Med. du Nord*,' *May*, 1907).—**Sonneville** and **Minet**.—**Carnot** and **Deflandre** have made known the value of the blood of animals during the period of regeneration which follows bleeding. Twenty hours after bleeding a rabbit 20 c.c. the animal is bled to death; the serum of this blood injected into a normal rabbit raises very considerably the number of red cells, which are sometimes doubled in number. The writers have utilised these experiments in the treatment of chloro-anæmia of children. Of the cases they quote one was a young girl, aged 14½ years. The blood contained 4,433,000 red cells, 0·50 hæmoglobin. After one injection of 6 c.c. of serum the red cells rose to 5,983,000, and the hæmoglobin to 0·57. A second injection was given leading to a second improvement in red cells and hæmoglobin, and the patient was discharged well. The other cases showed similar results, but in a case of leukæmia which was treated in the same way no improvement was seen.

J. Porter Parkinson.

Otology, Laryngology and Rhinology.

Prophylaxis of post-operative diphtheria (*'Boston Med. and Surg. Journ.,' May* 30, 1907). —**H. A. Barnes.**—Owing to a death following an operation for tonsils and adenoids from diphtheria, the author made a careful investigation. To prevent such an occurrence he advises examination of the throat when arrangements for operation have been made, again the day before operation (with cultures if necessary), and lastly, before etherisation.

Macleod Yearsley.

Syphilitic mastoiditis (*'Arch. of Otol.,'* xxxvi, *p.* 106). —**Hurd.**—A girl, aged 4 years, had adenoids removed in December, 1905. Earache three days later followed by purulent discharge, and a painful swelling over the mastoid. In June, 1906, there was profuse otorrhœa, tenderness over the mastoid antrum, fluctuating swelling about region of lateral sinus, and free discharge of muco-pus from the nose. Temperature 100° F. Operation same day. The swelling contained pus, outside the periosteum. The mastoid cortex was normal, the antrum full of pus and granulations. For several weeks the wound showed no tendency to heal, and was curetted and partly sutured. No healing, but further growth of granulations. The pathologist stated these to be syphilitic granulomata. Intra-muscular injections of salicylate of mercury, gr. ½, were given once a week, with iodide of potassium by the mouth. Beyond the fact that two gummata appeared above and below the auricle the child made an uninterrupted recovery. No specific history obtained in either parent.

Macleod Yearsley.

Rapid retrogression of adenoid vegetations following measles (*'Arch. Internat. d'Otol.,' etc., No.* 6, *p.* 873, 1905). —**Chavran.** —Child, aged 10 years; removal of moderate degree of adenoids recommended. Operation postponed owing to attack of measles with severe pneumonia. A few months later patient returned and the adenoids had disappeared. Author has noted similar spontaneous retrogression of adenoids in three other cases after influenza. Oppikofer has observed a case in which adenoids, which had caused nasal obstruction and nasal and aural catarrh for a year, disappeared completely after scarlet fever and nephritis, which lasted two months.

Macleod Yearsley.

Contributions to the etiology of acute suppurative otitis media after measles (*'Wien. med. Woch.,' No.* 6, 1906).—**Baar.**—In five children of one family suppuration started in one ear after the disappearance of the eruption. In three of the five the mastoid had to be opened because of threatening cerebral symptoms, and in one there was an extradural abscess. *Staphylococcus pyogenes* was found in the pus from the ear and mastoid. MACLEOD YEARSLEY.

On primary tuberculous disease of the mastoid process in childhood (‘*Arch. f. Ohrenheilk.*,’ *vol.* LXVII).—**Isemer**.—Of forty mastoid suppurations in children up to 13 four were tuberculous. The author concludes: (1) Mastoid tuberculosis occurs in early childhood more frequently than is generally assumed; 13 per cent. of all mastoid cases are tuberculous. (2) About half of these tuberculous mastoids are primary (originating through the blood-current); the other half are secondary, usually an extension from the naso-pharynx. (3) The disease begins insidiously and painlessly. The findings in operations are not characteristic. (4) The most important test of tubercle in these cases is microscopic examination and animal experimentation. (5) The chances of relief from operation are very favourable in primary cases, less so in secondary ones, as the primary focus may threaten the life of the patient. MACLEOD YEARSLEY.

Mastoiditis of nurslings without apparent involvement of the tympanum (‘*Arch. Internat. de Laryngol., d'Otol., et de Rhinol.*,’ *vol.* XXI, 469).—**Chauveau** describes a number of cases. The isolated inflammation of the antrum in early life is accounted for by the insufficient development of the air-cells and the large quantity of blood-vessels and cellular elements which surround the antrum. [It is possible that these were cases of pneumococcus otitis in which the tympanum healed quickly, leaving the antrum involved.—M. Y.] MACLEOD YEARSLEY.

Vocal nodules in children (‘*Boston Med. and Surg. Journ.*,’ *May* 30, 1907).—**A. Coolidge, Jun.**—A case of a girl, aged 10 years, is reported briefly. She had been hoarse five years, having acquired a habit of speaking loudly on account of a companion's deafness. Adenoids were removed about the same time, but without altering the vocal character. Examination showed two pearly white nodules, one on the border of each vocal cord, between the anterior and middle thirds. The author briefly reviews the literature of vocal nodules and points out that they are rarely mentioned as recurring in children. In his own experience they not infrequently appear as early as four or five years of age. He believes they often disappear during adolescence, especially in boys at the time of the change of voice. He has certainly seen them much more frequently in boys than in men. Rest and the proper use of the voice are the essential points in treatment.

MACLEOD YEARSLEY.

Surgery.

Aberrant functional (?) chronic intestinal obstruction (‘*Lancet*,’ *May* 25, 1907).—**G. S. Thomson** records the case of a child, aged 5 years. It had suffered from chronic constipation of a most obstinate nature since birth. Two or three weeks often elapsed without anything being passed by the bowel. Before operation nothing had been passed *per rectum* despite the use of aperients and enemata. Under ether the abdomen was opened. The sigmoid was found markedly distended, while its wall was relatively much thickened. The rectum consisted of a small hard tube. The nature of the obstruction could not be discovered, and so a Paul's tube was inserted into the sigmoid after fixing the bowel to the wound in the usual way. When the colon was opened considerable quantities of a semi-fluid material were removed, which had an exact naked-eye resemblance to quicksand. After this relief the distension became less and less, and the abdomen was again quite flaccid in a day or two. After a time the abdominal wound was closed, a small aperture for drainage being left below. After the second operation the patient's general condition became bad, distension of the abdomen ensued, notwithstanding the frequent response of the bowels to evacuants, whilst pressure over the affected part produced pain; vomiting followed. Death occurred very soon after. James Burnet (Edinburgh).

Open-air treatment of tuberculous bone and joint disease ('*New York Med. Journ.,*' *June* 8, 1907). —**Carling**, in an interesting article, details the treatment carried out at an American sanatorium. The children are kept out of doors all day except in very stormy weather. Those who are unable to walk are wheeled out in beds or in invalid chairs, and the presence of fever is no bar to their going out. Protected from the strong winds of winter and warmly wrapped in woollen blankets, patients are given sun baths when practicable. Drugs are never found necessary, save in cases of emergency. The main reliance is placed on a careful diet of wholesome foods rather than on emersions and tonics. A full, generous diet is furnished, but there is no attempt at overfeeding; forced feeding is not only unnecessary but actually injurious. A healthy action of the skin is highly important. Patients are sponged daily, and once a week are given a warm bath followed by a cold douche. Cases with Pott's disease are suspended while being bathed. Massage is given when indicated, and is especially valuable to those who, on account of their disability, are confined to bed or invalid chair. One of the most gratifying results of open-air treatment is the rapidity with which tuberculous abscesses disappear without surgical interference and sinuses heal with only the simplest of dressings. Abscesses can be incised with little danger of secondary infection. Dressings are changed frequently, and dry dressings are always preferred. Open-air treatment is an absolute necessity for the speedy and permanent cure of tuberculous and other forms of bone and joint disease. As regards location, a moderate altitude away from the sea-shore is to be preferred for the following reasons: (1) The air is more invigorating; (2) the absence of dampness and fog; (3) more days of sunshine; (4) better natural drainage; (5) a firmer soil for locomotion. The advantages over home treatment are, that the patient is always surrounded with pure air and a maximum amount of sunshine; his diet, rest, bathing, and exercise are carefully regulated; he is under constant medical supervision, he is educated and disciplined in the care of himself. It is an acknowledged fact that many cases of tuberculous osteitis in children develop pulmonary tuberculosis later in life. These cases, by being cured of their local disease, and having their general health raised to a high standard, are fortified against such an occurrence, and the community is benefited by thus lessening the number of foci for the spread of the disease and consequently a lowering of the death rate.

James Burnet (Edinburgh).

A case of genu recurvatum secondary to hip-joint disease ('*L'Echo Med. du Nord,*' *March*, 1907). —**Rene le Fort** relates the case of a man, aged 26 years, who when aged 10 years developed coxalgia, and used crutches for six months; when aged 15 years the genu recurvatum appeared, and increased for the following five years. The right hip is ankylosed in flexion about forty-five degrees, and is adducted and internally rotated; the right foot is rotated in and hyper-extended. The left knee is recurved to about thirty degrees. In the vertical position, he rests on the right foot with the knee hyper-extended, and upon the anterior extremities of the right metatarsals. If he raises the right knee he can bring forward the right foot by flexing the hip. In walking he does not use the genu recurvatum. The left knee is quite firm, and there is no lateral movement in hyper-extension. He walks quite easily ten kilometres a day. Skiagrams are shown of the joints.

J. PORTER PARKINSON.

Splenectomy for splenomegaly in a child aged 8 years (*New York Academy of Medicine: Section of Pediatrics, October* 11, 1906. '*Med. Record,*' *November* 10, 1906).—**David Bovaird, jun.,** reported the case. The patient was a female, aged 8 years; she had had persistent cough with occasional hæmoptysis for nine months. At the time of admission into the hospital the notable features were the easily bleeding gums, a liver extending from the fourth rib in the mid-clavicular line to one inch below the costal margin, a spleen which extended from the seventh space in the "axillary" line to the level of the anterior spine below, and on the right to a point two inches to the right of the umbilicus. There was a moderate degree of anæmia, no leucocytosis, and a moderate increase of the lymphocytes in the differential count. The spleen was removed by Dr. McCosh. A good recovery followed. The only notable change in the blood after the operation was the development of a leucocytosis of from 20,000 to 25,000. The spleen weighed almost two pounds; microscopically it showed a simple hyperplasia.

WILFRED TROTTER.

Aniridia congenita ('*Med. Press,*' *June* 12, 1907).—**Bergmeister** showed at the Vienna Gesellschaft two patients with eyes which had no irides. The lens in consequence fell forward on to the cornea, producing ectopia lentis; both cases were girls. In one the scleral surface had a porcelain appearance and was firm to the touch, but the ciliary vessels presented no abnormality. Astigmatism of 2·5 dioptres was present. The anterior chamber was normal in depth, and the lens lay obliquely, so that light from the side produced darkness, although the lens was perfectly clear and transparent. The fundus was normal and strong light almost blinded the patient. The acuity of vision was reduced to one tenth. Reading was performed at a distance of 7-12 cm., but looking through an orifice of 1 mm. the vision was improved three times, or one third. The mother, aged 42 years, and a sister also had the same congenital defect. In the second case the mother suffered from glaucoma in both eyes, the corneæ being projecting and densely clouded, the left more than the right; in the latter around the cornea the absence of the iris could be seen as in the daughter. In congenital aniridia glaucoma is a common result, and usually defies all treatment. As iridectomy is impossible, sclerotomy is the only treatment which has ever given any relief. In this case Bergmeister thought that cyclodialysis, as practised by Heine in glaucoma, might be of some service.

T. R. WHIPHAM.

Review of Book.

THE TREATMENT OF DISEASE IN CHILDREN. By G. A. SUTHERLAND, M.D., F.R.C.P. (Oxford Medical Publications.)

In this little volume Dr. Sutherland lays down a series of clear and precise rules for diet and general treatment of the more usual diseases in infants and children, and to his credit it may be said that he has left nothing to the imagination, and that the details of treatment are so given that it is impossible for even the least trained practitioner to misunderstand them. The book opens with some sound advice on the feeding of infants and young children, and we are pleased to note the entire omission of all allusion to the percentage composition of milks, which, however useful it may be to the specialist, is a constant source of confusion to the busy general practitioner. The author is content with more simple directions, the effect of which is, after all, the same. In speaking of scurvy he mentions the important fact, which cannot be too widely known, that milkmen have sometimes the pernicious habit of pasteurising their milk unknown to their customers, many cases of scurvy being thus caused. The dietetic treatment of gastro-intestinal diseases is very thoroughly and minutely given, and we are pleased to see prominence given to the value of strychnine in collapse from this cause. The routine treatment of respiratory affections by expectorants is deprecated, and a more rational method advised. It is useless to multiply examples; in one word, this little book is a valuable record of experience and common sense in the treatment of disease, and may be warmly recommended to the profession as a trustworthy guide.

Correspondence.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

SIR,

With reference to the abstract on p. 267 of your June issue, viz. tinea capitis, there must be some error about it. I have not seen the original paper by Jacquet, but I know his views well as to the ætiology of *alopecia areata*, having visited his clinic at the Hôpital Saint Antoine a year or two ago, and had various conversations with him. It must be alopecia areata, not ringworm, that your abstractor of quintessence refers to. There is, of course, no doubt whatever as to the contagiousness of ringworm, although I am well aware that the late Erasmus Wilson stated the parasitic theory of ringworm did not commend itself to him, a point I referred to in my 'Quarterly Review' article on "Leprosy" (No. 394, 1903, p. 399) when dealing with the contagiousness of the latter disease. The abstract in your widely-read journal may therefore prove very misleading. That is my excuse for troubling you.

Yours truly,

GEORGE PERNET.

Harley Street, W.

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Original Articles.

ACUTE RHEUMATISM IN CHILDHOOD.*

By C. O. HAWTHORNE, M.D., M.R.C.P.,

Physician at the Central London Ophthalmic Hospital; Assistant Physician at the Royal Hospital for Children and Women.

As a topic for debate, acute rheumatism in childhood has at least this virtue—it proposes a number of questions to which confident and appropriate answers are not easily fitted. Hence it offers, what will doubtless be freely taken advantage of to-day, an opportunity for the statement of differing and even conflicting expressions of opinion. It well may be that the presentation of such differences by the champions on either side may not provide a settlement of the several vexed and various issues, but the discussion can hardly fail to secure a fairer and more impartial appeciation of the different aspects these possess. And whether converts are made or not, the professors of a necessary agnosticism will be able to find in the clash of opposing views a justification of their inability to do other than halt between two opinions.

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* An introduction to the Discussion at the Provincial Meeting of The Society for the Study of Disease in Children, June the 15th, 1907.

At the outset of the discussion may be mentioned the remarkable recognition of rheumatism in childhood which has distinguished professional opinion in comparatively recent years. Naturally one asks, "Why was this recognition so long delayed?" Most of the writers in the earlier three-fourths of the nineteenth century assert in set terms, that, to quote from one of them, "in early life rheumatism in any form is a rare affection." It is only as the twentieth century approaches that this proposition is seriously qualified, and that we find the initiation of the movement which has led to the present-day definition, that "the most complete and comprehensive manifestation of the various phases of rheumatism belongs to the period of childhood." The suggestion has been made that the change of view is due to the fact that in former times acute rheumatism was regarded purely and solely as a disease of the joints. But this, as a statement of fact, is hardly correct. The recognition of the frequent association of pericarditis and endocarditis with rheumatic joint disease, and also of a relationship between rheumatism and chorea, is fully a century old, and in consulting various authors it will be found that hardly a single organ of the body has not at some time or other been regarded as the site of rheumatic manifestations. Further, again and again the suggestion is made that these visceral manifestations may precede the joint affections, and possibly may occur independently of such affections. Even the existence of rheumatic fever without arthritis was long ago recognised and affirmed by numerous competent authorities. Why, then, was the modern view in reference to the age incidence of rheumatism not promulgated at an earlier date? Is it possible that a change has taken place in the distribution of rheumatic disease? Or is our present position the fruit of more careful study and keener insight? Rheumatic manifestations apart from the joints have long been recognised. Why was this doctrine not applied to rheumatism in childhood until the later years of the nineteenth century? Whatever be the explanation it is not to be found in the work of the bacteriologists. Bacteriology may have done something to confirm the current creed, but the foundations of the doctrine were clearly and distinctly laid down by earlier clinical observation and reasoning.

Another general question is, "Why does the picture of acute rheumatism in the child differ so conspicuously from that of the same disease in the adult?" It is easy to say that certain tissues in the child are more susceptible, and others more resistant, to the rheumatic poison than are the corresponding parts in adults. But this is one of those explanations that explain nothing. And the fact that the joints in early life so largely escape the rheumatic attack is the more remarkable seeing how frequently, during the same age period, these parts become the site of infective processes. On similar lines the occurrence of chorea as a rheumatic event is presented as a demonstration of the severity with which the nervous system in early life suffers from the prejudicial influence of rheumatism. Yet the most acute and severe forms of chorea are seen in adolescents rather than in children, and one of the most impressive effects of rheumatism on the nervous apparatus, namely, hyperpyrexia, is seldom or never met with in early life.

It may be said that these questions are academic and non-practical; but they are well within the area of our debate, and when someone can answer them, we shall be nearer a solution of the problem of rheumatism, and possibly also of other problems, than we are to-day. Perhaps for the present they must be placed among the order of inquiries to one of which Johnson, in a fit of exasperation, was led to retort, "Tell me this: Why does a cow's tail hang downwards, and why is a fox's tail bushy?" And the varied sex-distribution of rheumatism at different periods of childhood must be left, I fear, in the same category.

If now we turn to regard the various clinical incidents which are more or less commonly labelled "rheumatic," we are met by a serious initial difficulty, namely, the non-existence of any absolute and admitted criterion by which in any individual case the diagnostic position can be assured. Even those who give unqualified assent to the bacteriological doctrine associated in our minds with the patient and ingenious work of Dr. Poynton and Dr. Paine, have to admit that, at present at all events, tests of this order are not available for clinical purposes. Must we, therefore, remain uncertain of our diagnosis in each individual case of suspected rheumatism until by cultures and microscopic slides prepared from post-mortem findings we have a demonstration of the presence of certain micro-organisms in the joints or other tissues? Few physicians will hesitate to answer this question in the negative when it is applied to acute rheumatic disease in the adult. However many causes of acute arthritis may now be recognised, it still remains true that there is seen in adults a well-defined febrile disease associated with articular disturbances—affecting, for the most part, many joints—and with abundant sour-smelling perspirations. But to this picture acute rheumatism in childhood rarely conforms. High temperatures, and especially high temperatures sustained for days or weeks, are decidedly uncommon; arthritic disturbances are usually slight; and free sweating is not a frequent event. Yet, without question, there are intermediate cases between these two extremes, and only those of a profoundly sceptical turn of mind will doubt that the rheumatic fever of the adult is seen also in the child, though usually in a form less demonstrative as regards the bodily temperature and the joint disturbances. This, I submit, is a reasonable faith on the clinical evidence alone, and many will agree that the position has been made a matter of certainty by the revelations of bacteriology. There is also, as we all recognise, a further clinical bond in the tendency to the development, both in the adult and the child, of one or other form of cardiac disease, and this statement at once raises the question why heart disease is so much more common with the rheumatism of childhood than it is with rheumatism in later life. The explanation, I suggest, is probably to be found, at least in part, in the relative escape of the joints permitting the child to continue its usual activities up to a point long after the painful polyarthritis of the adult has imposed a policy of complete rest. And this, as I have ventured on a former occasion * to urge on the Society, demands an endeavour to protect rheumatic children by informing their responsible guardians of the risks which attend even the apparently trivial illnesses of these children, and of the need for complete rest to meet these risks. I again submit that the recognition of this duty by the profession generally would probably help to save at least some of the children of rheumatic families from the disaster of organic cardiac disease. In connection with the arthritic manifestations of acute rheumatism in childhood may be mentioned two facts which hardly, I think, receive sufficient emphasis. The one is the occasional development of a relatively severe inflammatory attack limited to a single joint; and the other, the restriction of evidences of inflammation—pain, tenderness, and redness—to the joints of the fingers and toes. Both the one and the other may, unfortunately, be accompanied by the guarantee of cardiac valvular disease.

Up to this point, on the question of diagnosis, differences of opinion will hardly arise. Febrile attacks associated with more or less pain in the joints, and occurring without obvious cause, more particularly if accompanied by pericarditis or endocarditis, will, for the most part, be readily accepted as an abundant justification of the diagnosis of acute rheumatism. But what shall be said of the vast multitude of other phenomena which are now presented as expressions of rheumatism in the early years of life—of tonsillitis,

* British Journal of Children's Diseases, March, 1907.

pleurisy, bronchitis, pneumonia, chorea, nervousness, anæmia, purpura, abdominal pains, epistaxis, nephritis, erythemas, subcutaneous nodules, phlebitis, enuresis, meningitis, orchitis, periostitis, perityphlitis, and the rest? For many of these a good case may certainly be made out, at least to this extent, that more or less occasionally they occur in association with the cardiac, febrile, and arthritic evidences of the disease. In such circumstances the conclusion in favour of a rheumatic interpretation is a fairly strong one. But what is the position when any one of these exists apart from the generally admitted evidences of rheumatism? Is, for example, chorea, or tonsillitis, or pleurisy, or erythema, or purpura a distinctive and convincing note of rheumatism? Or, on the other hand, may any or all of these, and perhaps two or more of them in association, arise quite apart from the agent which produces rheumatic fever? And if this latter possibility is allowed, is there any available clinical method by which the rheumatic can be distinguished from the non-rheumatic variety of each of these conditions? Personally I have endeavoured elsewhere * to prove that even the eruption of subcutaneous fibrous nodules is not a purely rheumatic process, and I am inclined to put the other members of the series, including chorea, in much the same position.

Instances of this last-mentioned condition are not infrequent quite apart from the ordinary incidents of rheumatism, and the attack may recur on several successive occasions without the appearance of any such incidents. The same, I take it, is true of tonsillitis, of purpura, of epistaxis, and especially, perhaps, of erythema nodosum. But with this it must be admitted that a record of rheumatic incidents in early life may easily be overlooked, and further, that, at least so far as I can judge, there are no confident grounds on which a distinction can be established between the rheumatic and the non-rheumatic (if such there be) varieties of these conditions when any of them occur detached from the common and ordinary signs of rheumatic disease. It is possible, moreover, to carry this critical inquiry a stage further, and to ask whether, what may be called the central facts of acute rheumatism, invariably deserve that diagnosis. Is arthritis, or pericarditis, or endocarditis, or pyrexia, or all these in combination, definitely and distinctly rheumatic when occurring apart from an obvious and unquestioned alternative explanation? And if not, how is it possible to be sure clinically that any single event or series of events is essentially a manifestation of rheumatism?

* 'Rheumatism, Rheumatoid Arthritis, and Subcutaneous Nodules' (J. & A. Churchill).

As an exercise in criticism all this may be allowed, and it may even be admitted as possible that so-called typical rheumatic attacks may in different cases be due to different agencies. Yet it remains true that clinical experience gives us a group of cases, of the natural history of which we can speak with confidence in reference both to the risks they entail and the manner in which these risks may be met. Individual features which mark the symptomatology of this group may arise independently, and may then be other than rheumatic in nature and origin; and time may show that some of the so-called distinctive cases may be the outcome of causes different from the influences responsible for others. Yet the term rheumatism may claim a confident clinical justification, and there is no necessity to await its application to many clinical events until proof has been afforded that these events are an expression of the same influence as that which is operative in the most secure of all rheumatic manifestations, namely, the rheumatic fever of adult life. At the same time, it may be suggested that there is sometimes too ready a disposition to label as rheumatic individual facts the interpretation of which is not obvious, and further, that we must sometimes be content, here as in other departments of practice, to recognise the impossibility of holding an unhesitating view. So long as we are not in a position completely to define and to isolate the cause of an associated group of clinical phenomena the process of diagnosis must be something less than exact demonstration. This is the position in regard to many of the alleged expressions of acute rheumatism in childhood, and thus, however confident we may be in the diagnosis of individual cases, the definition of large general proportions is an invitation we may feel unable to accept.

Turning now to the questions that arise in connection with treatment, we find that these in some respects are allied with the discussion of diagnosis. Thus, if certain symptoms are an evidence of rheumatism, and if the salicyl compounds are, as some assert, a specific against the rheumatic poison, Is the administration of these compounds the appropriate medicinal treatment? And is such treatment successful? There can be no doubt that these remedies relieve pain and reduce temperature, especially in cases where the joints are affected. But have they any considerable range of value outside these cases? More especially, does their administration prevent cardiac complications? And is it possible that the depressant action often charged against sodium salicylate has been mistaken for the direct influence of the rheumatic poison on the cardiac muscle? Again, is it necessary to give such large doses, say hundreds of grains of sodium salicylate in the twenty-four hours, as are advocated by some physicians? And what is the value of a similar heroic medication in cases of chorea? My own experience prompts me to use salicin, and, for the most part, in moderate doses, and I confess to a fondness for the organic salts of potassium or sodium, pushed so as to make the urine alkaline, and combined with quinine in doses of two grains or so; and this latter mode more particularly in cases where the temperature is sub-febrile and the pains more or less vague and generalised. Regarding the prevention of cardiac disease there will be no question that early and prolonged and complete rest is the most efficacious agency. It will be interesting to hear what is the verdict members of the Society will express on the use of small blisters and the administration of sodium iodide in the treatment of endocarditis, as advocated by Dr. Caton. Certainly under this treatment pericardial friction often promptly, and apparently permanently, disappears. But here we are dealing with a condition which exhibits these evanescent features even apart from treatment, and it is thus difficult to be sure that remedies when administered are responsible for the change. Still more difficult is it to convince oneself that this, or indeed any form of medicinal treatment, can prevent or remove endocarditis. Personally, as opportunity offers, I follow the lines suggested by Dr. Caton, but I remain entirely uncertain of their efficacy.

There are other questions arising in connection with the salicyl compounds. First, does a good result following their administration prove that the disease under treatment is really rheumatism? Secondly, are they ever responsible for such symptoms as epistaxis and hæmaturia? These points have excited much difference of opinion, and it would be of value to know whether they can be confidently and definitely settled.

Lastly, in connection with treatment, arises the question of prevention. The necessity of providing early rest for the slight ailments of rheumatic children, and the means by which this is to be secured, I have already considered. In addition, it may be asked whether there is any reasonable ground for the statement that by attention to the hygiene of the mouth, and by removal of enlarged tonsils and adenoids, a probable avenue of rheumatic infection is closed. These measures may be wise for various reasons, but does their adoption lessen the incidence of rheumatism? I find myself unable to express any positive conclusion on this matter. Once more, are there any specific measures in relation to clothing, domestic hygiene, and climate, which are valuable in the direction of prophylaxis?

Certainly the amount of suffering and the fatal issues for which rheumatism in childhood is responsible, urge more attention to the question of prevention that it has, perhaps, hitherto received.

In all this, as I am fully aware, I have proposed more questions than I am able to answer, but I may plead that my function here, as determined by the Council of the Society, is rather to suggest various points for discussion than to attempt an exhaustive examination of any individual issue.

RELAPSES IN DIPHTHERIA.

By J. D. Rolleston, M.A., M.D.Oxon.,

Assistant Medical Officer at the Grove Fever Hospital of the Metropolitan Asylums Board.

After the middle of the nineteenth century, when diphtheria became generally recognised as a distinct disease, the occurrence of relapses was recorded by various writers. Michel Peter in 1859 wrote that they were of frequent occurrence and compared diphtheria to erysipilas, which is also a "maladie à répétition." In the same same year Burdon Sanderson recorded cases in which the same individual was attacked twice during the course of an epidemic. In all his cases the second attacks were more severe than the first. The greater severity of second attacks was also attested by Morell Mackenzie in 1879, who had known three instances in which children had died from the second attack, and by Downes in 1884, who noted the occurrence of relapses at intervals varying from a fortnight to ten months, and stated that in the Bromfield epidemic one quarter of the cases were among persons who had had diphtheria in the previous year. It is interesting to note that the experience of Sanné Rilliet and Barthez was exactly the reverse. According to them the gravity of relapses was almost always less than that of the primary disease. "It appeared that diphtheria in repeating itself lost its gravity."

Since the introduction of antitoxin in 1894 the consensus of opinion is that relapses of diphtheria are as a rule milder than the primary attack. Variot, however, records a case of a boy, aged 3½ years, who, after being three weeks in hospital for a slight attack of faucial and laryngeal diphtheria for which he received 20 c.c. of serum, returned a month later with a severe faucial attack. A fatal case of relapse is recorded by Roger.

Out of 39 cases of relapse collected by Menabuoni there were 3 deaths. In Gérard's 28 cases 11 were grave and 4 were fatal. A remarkable uniformity may be observed in the statistics of recent writers concerning the frequency of relapses, as will be seen by the following figures:

TABLE I.—*Frequency of Relapses.*

Variot (1898) .	6 relapses in	400 cases	(1·5 per cent.).
Concetti (1903) .	6 ,,	600 ,,	(1 per cent.).
Barbier (1904) .	9 ,,	763 ,,	(1·1 per cent.).
Menabuoni (1906) .	39 ,,	2300 ,,	(1·2 per cent.).
Rolleston J. D. (1906)	12 ,,	900 ,,	(1·3 per cent.).

Since 1893 a total of 1260 cases, or an annual average of 1·54 per cent., of diphtheria cases admitted into the Metropolitan Asylums Board hospitals have had relapses.

The present study is based on 1300 consecutive cases of diphtheria which have been under my care during the past five years. Of these, 22, or 1·6 per cent., had relapses; 2 of these cases had two relapses each.

In the present paper the term "relapse" is applied to the fresh occurrence of membrane in the throat or nose, associated with constitutional disturbance, and occurring in convalescence from the primary attack, but before the discharge of the patient from hospital. An artificial distinction is thus created between a relapse and a second attack of diphtheria. By a second attack is meant the reappearance of the phenomena of the disease after the patient has been discharged from the hospital.

Age.—It is a well-known fact that diphtheria has a predilection for children. What, perhaps, is not so familiar a fact, is that the characteristic complications of the disease are not so frequently met with in adults as in children. I have elsewhere shown this to be true of paralysis and pneumonia. The same holds good with regard to relapses. Though 184 of the 1300 patients were above the age of ten no case of relapse occurred above that age.

Sex.—The male sex seems more subject than the female; 16, or 2·6 per cent., were males, 6, or ·86 were females.

TABLE II.—*Age and Sex Table of Relapse Cases.*

	Males.	Females.
0–1	1	0
1–2	0	0
2–3	4	0
3–4	5	1
4–5	5	2
5–6	0	1
6–7	0	1
7–8	0	0
8–9	1	0
9–10	0	0
10–11	0	1
Totals	16	6

Like the late tonsillitis that occurs in diphtheria, relapses are most common in the winter months.

TABLE III.—*Months in which Relapses Occurred.*

January	3 cases.
February	2 ,,
March	1 case.
April	2 cases.
May	1 case.
June	2 cases.
July	0 ,,
August	2 ,,
September	1 case.
October	3 cases.
November	2 ,,
December	5 ,,

Relation to character of initial attack.—Though liable to occur after severe angina and after attacks of moderate severity, relapses were found to be most frequent after very mild attacks, as will be seen from the following table. Among 128 very severe cases, 66 of which recovered, no relapse took place, the explanation of this probably being that the severity of the attack, and the large doses of antitoxin administered, had afforded immunity against further infection The cases designated "very mild" did not receive antitoxin.

TABLE IV.—*Character of Primary Attack in Relapse Cases.*

Severe faucial .	5	cases	or	2·1	per cent.
Moderate . .	5	,,	,,	1·4	,,
Mild . . .	8	,,	,,	1·8	,,
Very mild . .	4	,,	,,	8·5	,,

Date of occurrence of relapses.—The date of occurrence of relapses is shown in the following table. The average time was about the middle of the sixth week.

TABLE V.

1st week	0	cases.	
2nd ,,			
3rd ,, .	2	,,	neither injected for primary attack.
4th ,, .	3	,,	1 case not injected for primary attack.
5th ,, .	5	,,	1 ,, ,, ,, ,,
6th ,, .	5	,,	
7th ,, .	5	,,	
9th ,, .	2	,,	
11th ,, .	1	case.	
14th ,, .	1	,,	This case contracted scarlet fever in the second week.

Reaction of relapse cases to antitoxin.—A striking feature about relapse cases is the frequency of serum rashes, their early appearance, and the aggravation of the usual serum phenomena after re-injection. If 5 cases be subtracted, 4 of which were not injected for the primary attack, and 1 of which was not injected for the relapse, rashes will be found to have occurred in 18 out of 19 cases, or in 94·7 per cent. This figure far exceeds the average rash frequency. Of the 1300 cases, 1248 were injected; of these 843 only, or 67·5 per cent., had rashes. Whereas the usual date for the appearance of rashes is a week after injection, after re-injection, provided the interval between the two injections is more than ten days, a rash often appears on the same day, sometimes within a few hours of injection, or on the day following. Thus, of the 18 cases, in 12 the rashes occurred on the same day, in 3 they occurred on the following day, and in the remaining 3 the rashes were first seen on the fifth, seventh, and ninth days respectively after injection. Not only is the rash precocious in its appearance, but it is often very profuse and associated with marked œdema. Rigors, vomiting, and collapse may occur. The possibility of these circumstances is, as I pointed out in 1904, an objection to the treatment of diphtheritic paralysis by antitoxin. This abnormally active response or "supersensitation" of the re-injected has been thoroughly investigated experimentally and clinically by Pirquet and Schick (1905), Lemaire (1906), and Currie (1907).

Character of attack in relapse cases.—In no case was the relapse severe, and in none was the larynx involved.* With the following exceptions the localisation of the two attacks was the same in both. In four cases the fauces were affected in the primary attack, and the nostrils alone in the relapse. In one case the larynx was affected in the primary attack and the fauces alone in the relapse. The benignity of the attacks and the absence of complications are to be attributed in the first place to the fact that the disease in each case was cut short by the prompt administration of antitoxin. Every case which received antitoxin—in only one was it not required—was injected either on the first or second day of the relapse. In the second place, probably owing to the incomplete immunity afforded by the primary attack, none of the cases showed a tendency to a precocious malignancy which is manifested by faucial œdema, rapid spread of membrane, considerable adenopathy, oral fœtor, and marked prostration. In other words, none of the cases were toxic or semi-toxic in character.

The occurrence of severe relapses recorded by other writers is to be explained partly by the fact that antitoxin was not used, or was employed too late, and that the immunity conferred by the primary attack was completely exhausted. These two circumstances are more likely to be met with in second attacks than in relapses, partly because the patient is not always under medical observation at the onset of the attack, and partly because the interval between the two attacks is longer than in the case of a relapse. In the present series of cases, apart from the 24 relapses that occurred in hospital there was a history of a previous attack in 23 others. The character of the attacks in these cases was as follows:

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* A few cases of relapse not included in the 1300 cases in which the larynx alone was affected have come under my notice. In each case the larynx had been involved in the primary attack.

TABLE VI.

Second attack.	*Primary attack.*
Very severe, 2 cases (both fatal)	1, 2 years ago, character unknown
	1 mild nasal, 1 year ago
Severe, 1 case . . .	Very mild faucial, 3 years ago
Moderate, 7 cases . .	5 cases, no records
	1 severe, 2 years ago
	1 mild, 2 years ago
Mild, 10 cases . . .	5 cases, no records
	1 moderate, 9 months ago
	1 moderate, 4 years ago
	1 mild, 19 months ago
	1 mild, 8 months ago
	1 very mild, 3 months ago
Very mild, 3 cases . .	1 moderate, 2 years ago
	1 mild, 17 months ago
	1 very mild, 11 months ago

The interval between the two attacks varied between two months and fourteen years. It will be noticed that though the great majority of the cases were not severe there were 2 fatal cases and 1 severe case. In 10 albuminuria was present. It is of interest that in 3 out of 4 cases in which the attacks were separated by an interval of less than a year the patients were members of the staff, who were always being exposed to fresh infection.

The remaining patient was one who probably, from the presence of adenoids, presented special susceptibility to infection. She was admitted in March, 1905, with mild faucial diphtheria. On the thirty-ninth day she had an attack of tonsillitis, and was discharged on April 25th. She was admitted again on November 1st with mild diphtheria, a relapse occurred on the thirty-seventh day, and an attack of tonsillitis on the sixty-seventh.

Comparison of relapses with late tonsillitis.—I have elsewhere shown that late tonsillitis is commoner than relapses. In 900 cases there were 34 such cases (3·7 per cent.) as compared with 12 relapses (1·3 per cent.). My subsequent experience is confirmatory. In the 1300 cases there were 43 cases of late tonsillitis (3·3 per cent.), as compared with 22 relapses (1·6 per cent.). The cases of tonsillitis tend to occur at the same periods of the year, viz. chiefly the winter months, as is shown by the following table :

Table VII.

January	6	16 in first quarter.
February	5	
March	5	
April	5	7 in second ,,
May	1	
June	1	
July	0	5 in third ,,
August	3	
September	2	
October	2	15 in fourth ,,
November	11	
December	2	
	43	

Unlike relapses, however, cases of secondary tonsillitis are commoner in females and in adults or older children. Thus 13 were over seven years of age, 18 were males (2·9 per cent.), 25 were females (3·7 per cent.). The greater frequency of late tonsillitis compared with relapses is probably due to the faucial tissues having gained a certain degree of immunity against the specific infection, whereas their power of resistance against other forms of inflammation has been lowered.

Pathogeny.—What gives rise to relapses? Is there a fresh infection from without, or are the bacilli that have persisted from the primary attack awakened into fresh activity from one cause or another? According to some authorities intercurrent diseases such as measles, scarlatina, or tubercle may be the cause of relapse. Such, however, was not the case with my patients, all but one of whom since their convalescence from their primary attack had been free from any superadded disease. In the single exception scarlet fever occurred on the ninth day, but the relapse did not occur till the sixty-ninth.

In dealing with the question of relapses in measles Weill and Dauvergne think that they are more frequent in hospitals or large families, where several children have the disease at once. A facility for fresh inoculation is thus explained. Local conditions, such as hypertrophied tonsils, have also been assigned a *rôle* in the causation of relapses. This was not a striking feature in my own cases, though it was occasionally noted in the cases of secondary tonsillitis.

Individual idiosyncrasy probably accounts for many cases of relapses. Some persons more than others without any marked local condition of the throat to explain it seem specially liable to attacks of acute infectious disease. Thus, one child had two relapses of diphtheria, and these were followed by scarlatina, in convalescence from which he developed varicella.

Diagnosis.—The diagnosis of a relapse is usually easy, but the following conditions must first be excluded:

(1) *Angina redux.*—The late serum phenomena, which consist of a rash, usually a circinate erythema, accompanied by pyrexia, less frequently by adenitis and pain in the joints and muscles, are sometimes associated with deposit on the tonsils, probably of the nature of an enanthem. For this condition, which the French call "pseudo-relapse" or "angine de retour," I have suggested the term "angina redux" ('British Medical Journal,' i, 1906, p. 1152). It occurred in 48 cases of the present series, or in 3·8 per cent., and is thus commoner than true relapses, which it may, however, so closely stimulate that those not familiar with this condition may quite needlessly give a fresh injection. The date of its occurrence, usually a fortnight from the first injection, and its association with other serum phenomena, should indicate its true nature.

(2) *Scarlet fever.*—Though the patient as a rule complains of sore throat before the appearance of the rash, it is unusual to find much deposit on the throat before the rash is well developed. Exceptional cases, however, do occur in which patches may be seen on the tonsils twenty-four hours or more before the appearance of the rash.

(3) *Late tonsillitis.*—The discrete nature of the deposit and the absence of diphtheria bacilli in the culture will settle the question. The progress of relapses is slow and benign, so that it will be safe to await the bacteriological verdict before injection.

Prognosis.—Enough has already been said to show that the outlook is generally favourable both as regards the acute attack and the absence of subsequent complications.

Treatment.—The comparative rarity of relapses and the readiness with which they yield to antitoxin make it unnecessary to adopt the prophylactic treatment pursued by Marfan, which consists in the administration of a fresh dose of antitoxin to every patient who remains in the diphtheria ward longer than a month. Owing to the unpleasant results attending re-injection it is advisable to give small doses for relapse. Though my experience has justified the administration of large doses in primary attacks, I have found that it is well not to exceed 8000 units as a re-injection dose. Some cases, especially in adults, in whom it is safer to delay or withhold antitoxin altogether, can safely dispense with it, and recover with local treatment only, or indeed with no treatment at all.

SUMMARY.

(1) Relapses occur in a little more than 1 per cent. of all cases of diphtheria.

(2) They are less frequent than late tonsillitis in convalescence from diphtheria.

(3) They do not occur before the third week.

(4) The frequency of serum rashes after re-injection is much greater, their appearance is earlier, and their phenomena more intense than usual.

(5) Relapses must be distinguished from angina redux, scarlet fever, and late tonsillitis.

(6) They are usually milder than the primary attack.

(7) Comparatively small doses of antitoxin should be employed in the treatment of relapses.

(8) The causation of relapses is obscure.

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THE RATIONAL TREATMENT OF ADENOIDS.

By Macleod Yearsley, F.R.C.S.,

Senior Surgeon to the Royal Ear Hospital: Membre Correspondant de la Société Française d'Otologie, etc.

Adenoids is a subject in honour of which copious libations of ink have already been poured out. It is possible that many persons will turn with loathing from anyone who has the temerity to write further upon the subject. At the risk, however, of incurring the displeasure of the legions who consider that the last word upon the treatment of adenoids has been said, I propose to make a further plea for a more rational method of dealing with them. I have, I fear, a serious indictment to make against two sections of the profession—those who insist that hypertrophy of the pharyngeal tonsil can be "cured" by means of nasal injections, breathing exercises, and the like, and those who attempt operation without sufficient skill to carry it out successfully. No doubt I shall be vigorously attacked by both sections, possibly I may be accused of ulterior motives, but a very large experience of the subject compels me to speak and to put in a vigorous protest to what I consider to be a grave abuse—sins of omission and of commission. The first section puts its patients to unnecessary and perfectly preventable risks; the second, by operating badly, brings an excellent operation into unmerited discredit and thereby deprives other cases of the help of which they stand in imperative need.

I was calling one afternoon upon a lady who insisted upon discussing adenoids. She had recently been to Germany, and with that semi-superstitious reverence that seizes some people for the medicine of any country but their own, had taken her son, aged about 11 years, to a German doctor. He had confirmed the suspicion that he had adenoids and had advised against operation, ordering daily nasal injections instead. "I do it every morning," she said, "it makes him cry, but it has enormously improved him; he breathes quite nicely now!" I looked at the boy who sat beside her. He had the heavy face, the dropped jaw, the generally stupid expression of the adenoid subject. He breathed more noisily than "nicely," and entirely through the mouth, snorting most unmusically at times. I took the opportunity later of talking with him and found that he was undoubtedly deaf.

I admit that breathing exercises are of the utmost service after adenoids have been removed, but I have never seen a case in which they did any real good where the adenoids were sufficiently marked to cause symptoms. As to nasal injections, either antiseptic, astringent, or what not, I do not believe that they are of the slightest use. Many years ago enlarged tonsils were treated with paints and applications—a method long given up. Adenoids are simply an hypertrophy of the pharyngeal tonsil and are as little amenable to such treatment.

Even, however, if breathing exercises or nasal injections were of service in a limited number of cases, do they minimise the risk the patient runs from various infections? Do they, for instance, really lessen the tendency to acute catarrhal inflammations—to "colds"—that is so marked a feature in most cases of adenoids? Do they put the patient in an advantageous position if he has the misfortune to develop measles, scarlet fever, or diphtheria? Do they obviate the extra risk that such patients run from tubercle? A very patent risk is this, if we are to believe the conclusions of perfectly competent and trustworthy observers, not merely from England, but from other countries, including the beloved Germany. It will be worth while to briefly review some of the work which has been done in this direction.

McBride and Logan Turner (1), in a histological examination of 100 specimens of adenoids, found microscopical evidence of tubercle in 3; Lewin (2), out of 200 cases, found 10 tuberculous; Luzzatti (3) found 2 cases in 50; Pilliet (4), 3 in 40; Dieulafoy (5), 4 in 35; Pfluder aud Fischer (6), 17 in 161; Gottstein (7), 4 in 33; Lermoyez (8), 2 in 52; Brindel (9), 8 in 64; Brieger (10), 5 in 78; Hynitsch (11), 7 in 180; Wex (12), 7 in 210. These figures give a total of 72 cases of tuberculosis in 2303 specimens of adenoids. Besides this Milligan (13) also found tubercle in 16 per cent., and Rethi (14) in 6 per cent.

In all these independent investigations the diagnosis was based entirely upon the histological changes observable in the growths, no note being taken of the mere presence of tubercle bacilli in the secretions lying over their free surface, or in the sulci between the ridges, unless these were accompanied by definite changes of a tuberculous character in the tissue of the growth itself. If the mere presence of tubercle bacilli be taken into consideration, the percentage of what may be called dangerous adenoids would be much larger. Putting aside adenoids which are demonstrably tuberculous, bacilli may be found in the superficial layers of the mucosa, and others may be, more often, met with in the mucous secretion covering it. When we remember that bacilli may penetrate an intact epithelial surface, and may be conveyed by the lymphatic stream to distant parts, we can realise that adenoids are potent, even when their surface is perfectly intact, to act as filters in the air-stream, through which bacilli may pass on their way to other organs.

When a tuberculous process is once started in the succulent adenoids of young children it may spread by simple continuity of tissue, ultimately extending *viâ* the Eustachian tubes to the middle ears. It is a recognised fact that primary tubercle of the ear is of much more frequent occurrence than was at one time suspected.

Whether, therefore, adenoids are simple or tuberculous, they are an ever-present menace to the organism, either by causing middle-ear tuberculosis, or by harbouring tubercle bacilli which may ultimately cause havoc in distant organs, or be carried down to the pulmonary tissue in the air-stream, to set up pulmonary tuberculosis.

This alone should be sufficient argument against the misguided palliative treatment of adenoids, without others to which I would briefly refer.

It has been insisted that, if the child with adenoids be "tided over" until puberty has arrived, he will "grow out" of them. I fear that, in a number of cases, the adenoids grow out of the child. The idea is supported, and apparently justified, by the fact that, at or about puberty the symptoms often ameliorate to some extent and the breathing becomes less oral. But for this there is another explanation. At puberty the post-nasal space enlarges, whilst the adenoid mass does not. It is the same article in a larger box. The adenoids are still there, and of the same size, whilst the post-nasal space has grown out of all proportion to them. This is proved by the fact that there is scarcely any diminution in the tendency to "catch cold," which is so prominent a symptom in adenoids. As regards the size, I have repeatedly removed adenoids from patients at or over the age of puberty—sometimes considerably over—and found the mass, which looked (by the posterior rhinoscope) and felt so small, was really as large as the adenoids removed from a child and showed no tendency to fibrosis. So that procrastination is not really justified by results, and, moreover, during the time that the millenium is being awaited the child, apart from the tuberculosis danger already referred to, is very possibly laying up a store of future nasal and aural troubles. Even if middle-ear suppuration is not set up, attacks of earache, due to repeated congestion of the tympanic mucosa, are common, and these may pass into chronic catarrhal inflammation or, according to some otologists, may result in true otosclerosis. The latter is not absolutely proved, but, in cases showing an hereditary tendency to otosclerosis, nothing which could possibly determine the changes about the oval window characteristic of the condition should be allowed to remain. In many cases of chronic middle-ear catarrhal changes, and in a few cases of true otosclerosis, I have obtained a history of attacks of earache in childhood.

The effect of adenoids upon the body-growth, the proper development of the jaw, and their influence upon dental caries, are sufficiently well known to need no discussion here. I would, however, refer the reader to the papers of Whitehead (15) and Campbell (16) on these matters.

One of the most convincing papers upon the importance of operative removal of adenoids is that of Kerr (17).

I would now pass on to the discussion of unskilled operations. To the looker-on the removal of adenoids is a very simple and easy affair, but here the looker-on does not always see most of the game. That the reverse is the case is proved by the number of instances one meets with in which operation has failed, the whole mass of adenoids being left practically intact, or a large part of it still remaining. The result is disappointment to both operator and parent. What is worse, the former, after several such experiences, failing to recognise that his own technique is at fault, joins the ranks of the "palliative treatment" section and says that he has found no benefit from operation. The parent, meanwhile, makes a systematic round of drawing-rooms and tells her friends that they should on no account allow their child to be touched. "Dr. so-and-so operated beautifully on my boy, but it did no good." I have known some practitioners cover their retreat by laying the blame upon "recurrence." My chief experience of the recurrence of adenoids is that it is merely another term for imperfect removal. It is quite true, however, that in a certain percentage of cases adenoids will return, especially after operations upon very young children. Speaking roughly, adenoids may recur, even after careful and perfect removal, up to the age of seven, and I always make a practice of warning patients of this when recommending operation before that age.

In operating with forceps it requires a good deal of practice before the surgeon knows thoroughly well what he is doing in the post-nasal space. The cradled curette is a cleaner and more efficient instrument, and once the "knack of it" is acquired it cannot fail. Many inexperienced operators do not appreciate the fact that, to be successful with this implement, the edge should be felt to touch the nasal septum and the instrument pressed well against the pharyngeal roof before sweeping it backwards. If the former is not done the most anterior portion of the growth is left, whilst if one fails to push the instrument well home the adenoids are merely shaved and not removed. No surgeon should consider himself sufficiently qualified to remove adenoids until he can bring away the whole mass in one sweep. The cradled curette requires to be kept sharp.

I fear that many practitioners will take my words amiss and consider that this paper is an attempt to rob them of an operation which they can well do themselves. If, however, they would look at the matter without prejudice, they would see how important it is that this simple operation should be thoroughly and efficiently performed. In the vast majority of cases efficient removal means very marked improvement, and if the operator finds that he is unable to remove the whole mass, or that his results are uniformly (or in the majority) disappointing, he should look to himself and not to the method for the explanation.

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Second International Congress on School Hygiene.

Held in London August the 3rd—9th, 1907.

(Reported by Dr. M. D. EDER.)

Section II.—GENERAL METHODS OF MEDICAL INSPECTION IN SCHOOLS.

Dr. FR. CUNTZ, Wiesbaden, had undertaken at the first congress in Nürnberg to prepare a report on the method that might be universally adopted. It was important to have come comprehensive scheme of universal application if the results were to be estimated comparatively. The following should be the guiding rules for the school doctor :

The first examination of the children.—Each child must have a card in which the date of the inspection should be noted, as well as the observations of the teacher on the physical and mental condition of the child during its school attendance.

An inquiry should be sent to the parents or family physician for information as to past illnesses, accidents, physical or mental defects.

At this first examination the data required are:

(1) The full name of the child (to be given by the teacher).

(2) Height and weight.

(3) Chest measurement; at all events in all delicate children.

(4) General physique to be marked as good, indifferent, or bad.

(5) General mental condition.

(6) Former illnesses.

(7) An estimate as to how these illnesses are likely to affect the child in its studies.

(8) A statement as to whether medical treatment is required or further examination by a specialist (to be communicated to the parents).

(9) Is special attention needed? Separation of those requiring it, and also of the delicate children.

The examination must be thorough. It should be conducted in a special room. The best time is in the second or third month after the opening of the school. A preliminary rapid examination should be made if possible in the first few days so as to reject any children quite unfit for ordinary school life. The examination of sight and hearing should be deferred to another period.

The children should be examined once every six months whilst at school to detect any new cases of illness, and to see that the buildings, etc., are kept in thoroughly hygienic conditions. This will of course include lighting, heating, etc.

There must be a final examination at the completion of school, carried out precisely as was the first one. This must include sight testing, auscultation of the heart, examination of the spine in all children. In many cases suitable advice as to the child's future occupation could be given from a result of this final examination.

The school doctor should always co-operate with the principal and the teachers, and be prepared to advise and help in all matters affecting the hygienic condition of the children. This may refer to the duration of the lessons, sequences of studies, etc.

Dr. Oebberke, of Breslau, was appointed with Cuntz. He undertook to draw up the details of the required examination. Special stress is laid upon the examination of the teeth, mouth, nose. The proposed schedule is comprehensive and yet is one easily carried out after a little experience.

Thiersch, of Leipzig, had carried out the school inspection for some years at Leipzig. He finds the best time for this is during the second term, when teachers and children have become accustomed to one another. The parents are invited to attend the examination, which they are glad to do. Before the inspection he delivers a short preliminary lecture on some question of personal hygiene, which should not last more than half an hour. The children are then examined singly in the presence of mother and teacher. The examination is thorough, the children being stripped to the waist. If anything abnormal is found the parent is told to obtain treatment. The examination of forty children takes from one and a half to two hours. Subsequent examinations take place at least twice a year.

The Incidence of Ear Disease in 1000 East-End Children.—Miss Ivens found nearly one third had defective hearing. Of these 49 per cent. were suffering from adenoids alone, 11 per cent. from enlarged tonsils, and 48 per cent. from otitis media. From tables furnished by the teacher with regard to the mental capacity of the children it was found that bad hearing led to bad educational results. Removal of adenoids and subsequent training in mouth-breathing led to improvement in the mental capacity of the children. The habit of nasal breathing and the use of the handkerchief should be taught.

Dr. Stackler had examined 753 children in Paris and found that 36 per cent. had defective hearing. Neither the parents nor the teacher were aware of this. But of these 36 per cent., 7 per cent. had fair hearing at times, in 17 per cent. it was always defective, whilst in 12 per cent. it was very bad.

The Eyesight of the Poorer City School-Children.—The eyesight of 52,493 Glasgow school-children had been examined by the teachers; 35 per cent. had defective vision. Of these 14 per cent. were functionally defective only. The functionally defective increased among the children living in the densely populated parts of the town. Among children living on the outskirts, who had better opportunities for using their eyes at long distance, this particular defect was at a minimum. Some of this bad vision was due to malnutrition. Sewing must be abolished in the infant schools. [Dr. Kerr has been successful in doing this in London.] Proper feeding would eliminate some of the disease. It would be an economy, since bad eyesight prevents the children being full wage-earners and so swells the ranks of paupers and criminals.

Stackler examined the eyesight of 753 children in Paris, and found 13 per cent. defective. In 6 per cent. of these cases the parents were not aware of this.

Sir William Osler, in an introductory address, claimed that medical inspection, treatment, and school anthropometry were the most important of all questions. If as much attention were paid to the rearing of children as was paid to the breeding of cattle, horses, and dogs in this country, our results would equal those of the breeders of pedigree stock. There was no progress to report in this country since the last Congress of three years ago. There is still an entire want of co-ordination, and our efforts are merely haphazard dashes. Great Britain is far behind most other countries —behind even Servia, Russia, Bulgaria, The Argentine. There is here no direct control from Government. We want a comprehensive scheme, and because there are difficulties we must not lay aside all effort. Sociological difficulties are found in the fact that 13 per cent. of our school-children suffer from malnutrition. Then, again, 25 per cent. are found to be very dirty, whilst 50 per cent. are stated to be verminous. The neglect of the teeth is a national disgrace; 90 per cent. of school-children suffer from decayed teeth. Again, there is the terrible evil associated with ear, nose, and eye trouble. In Bradford 28 per cent. of the children are mouth-breathers. Perhaps, in addition to general school doctors, we require travelling specialists, who should journey from one centre to the other. In many of the schools the temperature is too low in winter and too high in summer. The school doctor must step in and remedy all these defects. If these suggestions savour of Socialism this is not any objection; the well-being of the people is at stake, and this is the most important of all questions for the nation. The dentist should make a quarterly inspection. Should the school doctor be under the medical officer of health, or under a separate Educational Medical Board? Should the doctor in villages be in connection with the village dispensary? These and many other matters must be carefully considered. At all events the doctor must control the situation.

Dr. **Hayward** then opened a discussion on the co-operation of doctor, teacher, and nurse in school hygiene. He considered it desirable that a nurse should accompany the school doctor on his visits; the children were less frightened, and the nurse was useful when examining girls. The class teacher should be asked to accompany the doctor. A daily medical inspection is impossible, but a health register should be kept. The chief part of medical inspection is that relating to mental capacity. Here doctors are just commencing to grope their way; the doctor must become a specialist here. Special teachers' classes should be held, when informal discussions could be held.

Mr. **Sykes** claimed that if any good is to come out of medical inspection the doctor must be (1) a reasonable man; (2) he must work with the teachers; and (3) he must have full power to remedy all evils. The Board of Education must have a medical department. Teachers welcome the doctor, and the children grow to like him. He hoped they would have a greater sense of responsibility than the certifying surgeons. In Bradford alone there are 10,000 children half-timers; over 50 per cent. of these are girls. They are in the mills winter and summer at 6.30 a.m., and work there for six hours, attending school from 2 until 4.30. What sort of mothers or fathers could one expect? Yet no certifying surgeon has rejected a single child in Bradford as physically unfit for this double life. Four thousand such children had passed through his own school, and to his certain knowledge a great many were not physically strong enough to do the work.

Dr. **Duncan Forbes** read a paper upon which we comment elsewhere.

Dr. **Marion Hunter** wanted medical inspection and treatment as a first step to improve the national physique. If curable conditions were remedied in children we should have less expenditure upon asylums, prisons, infirmaries, and hospitals.

Dr. Cuntz, Wiesbaden, said that in Germany they were glad enough to get the doctor into school, and he could do all that is really required. No doubt a nurse would be a very pleasant help. It was unfair to teachers to make them responsible for medical investigations, for instance, taking the temperature, as Dr. Hayward had advocated. The teacher has enough work thrust upon him.

Dr. Blake, delegate from Western Australia, informed the meeting that during a recent visit to Japan he found that there was the most complete system of medical inspection. There is a doctor attached to every school. The Japanese believe that the health of the children was the important factor in the development of any great nation. They meant to spare no money in attaining this object. In Western Australia it was also regarded as of paramount importance and purely as a state affair.

Mrs. Kirk did not consider a nurse essential; the teacher can do all that is required to help the doctor. Verminous children must be excluded from school.

Dr. Quirsfeld had made a special investigation into 1014 children. He found that the majority of myopic children were of delicate constitution. A very noteworthy condition is the appearance, in the last two years of school life among girls, of right scoliosis and myopia.

The care of the teeth and school life.—Mr. C. Edward Wallis had made a detailed examination of the teeth in a London elementary school in a poor district. Out of 245 children only four were found to have the normal number of healthy teeth. The permanent teeth often become carious within two years of eruption; therefore treatment should be begun early. There is appalling absence of cleanliness and a total absence of dental conservative treatment. There is close connection between oral sepsis and the enlargement of the submaxillary glands. In nearly all cases of extensive dental caries the physical measurements are below the average.

Dr. Jessen, of Strassburg, said that the care of the teeth is an essential part of school hygiene. The first Congress recognised the great importance of the question. Educational officials, architects, physicians, and teachers are working nowadays in co-operation. They are determined to build up a healthy people, the most valuable capital of the nation. The care of the teeth is all important in this regard. Not less than 90 per cent. of children have diseased teeth. In Strassburg free treatment was authorised—

In year 1903 for 17,119 children
,, 1904 ,, 17,054 ,,
,, 1905 ,, 18,073 ,,
,, 1906 ,, 18,667 ,,

The cases dealt with were—

	Children examined.	Children treated.	Stopping.	Extracted.
In 1st year . .	5343	2666	699	2912
,, 2nd ,, . .	6900	4967	4832	6530
,, 3rd ,, . .	4372	6824	7065	7985
,, 4th ,, . .	834	7491	8340	8552

The cost was £115 in 1902, and reached £450 in 1907. As to the effect it might be seen in the answer given by the teachers to an inquiry addressed to them by the chief inspector. All were agreed that (1) absence from school had greatly diminished; (2) the general health of the children had improved; (3) very little school time was lost; (4) the parents were glad to avail themselves of the school dentist for their children.

On August the 9th Dr. CRONIN, of the New York Department of Health, opened a discussion upon medical treatment at school. He said this had been forced upon his Board because the Education Department had complained that the exclusion of children, for long and indefinite periods, meant the growing up of an army of illiterates. These children would never become full wage-earners, and would be a great loss to the nation, who would have finally to support them. So far treatment has been confined to a few conditions in about one third of the schools. Dr. Cronin demonstrated by lantern slides, of children "before" and "after" treatment, the enormous improvement in the physical condition of the children, substantiated on the mental side by the teachers' reports and the class positions of the children. The economic value was undoubted; the untreated cost the city by their exclusion $4000 daily. The expense of treatment is a portion of this sum. He considered it advisable that the medical man should be municipalised. There was a close analogy between the state control of transmissible diseases, such as smallpox, tuberculosis, etc., and conditions favourable to the spread of contagion. Hospitals should be provided for proper treatment. The objections are only of theoretical importance; practical experience is in favour of such a system. The cost compares favourably with the necessary expenditure involved in securing the treatment of defective children by means of parental responsibility or through voluntary agencies. New York employed in the session 100 physicians at a salary of $100 per month, and fifty nurses at $75 per month. Treatment at school was justified not only by results, but also on social, economic, and professional grounds.

Dr. STOCKER said there was a school polyclinic now in Lucerne, and the results had been admirable. It was free, but not obligatory for all children attending the public schools. Only, if children were not being treated after notice had been served upon the parents, they were compelled to attend the school clinic. It consisted of a general and a special child department. Only ambulatory cases were treated. Prescriptions were given, but the chemist could only repeat them with the doctor's signature. Tooth brushes, spectacles, trusses, etc., were given in the same way. The school clinic was not in competition with, but was welcomed by the medical men in general.

Anthropometry in schools.—A strong case was made out by Mr. GRAY for collecting data as to the conditions of the school-children. This was the only possible method of national stock-taking. Till successive generations could be comparatively examined the talk about physical or mental deterioration was a vain beating of the air.

Dr. SHRUBSALL said a simple schedule could be advantageously used. This comprises: (1) *Stature* without boots, *weight* in dressing-gown previously weighed; (2) racial characters: *colour* of hair and eyes; *cranial measurements*: maximum length of labella to point furthest away upon occiput, maximum breadth, wherever found above plane of ear lobes; (3) chest dimensions, full and empty at juncture of fourth rib cartilages with breast-bone, diameters of chest at this level; (4) bi-acromial, bi-trochanteric, and height of head.

Dr. GUTTMANN claimed that the birthday should be selected for making observations, and a steel measure should be employed.

Editorial.

THE SECOND INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.

THE disclosures made at the Congress that sat in London from August the 3rd to the 9th were little flattering to our national self-esteem. As we English make no pretence to adapt scientific knowledge to national needs, we were not depressed at learning that in a regard for the physical welfare of our children we lagged behind Switzerland, Denmark, or Germany. It was unpleasant, however, to be reminded for a week on end that The Argentine, Servia, Bulgaria, Australia, Japan, had effective systems in being that far outstripped anything even contemplated in Great Britain, the Mother of Nations.

Japan, for instance, has a doctor attached to every elementary school. Think of London with its twenty-one medical officers, mostly part-time, to look after its 750,000 school-children; and London is better off than the rest of the Kingdom.

Little wonder that the Board of Education attempted to ignore the Congress; contributed the magnificent donation of £3 3*s.*; sent no delegates, although nearly every nation had official representatives. Indeed, it was only through the direct intervention of the King, to whom Sir Lauder Brunton was allowed to explain the position in a private interview, that the Government semi-officially recognised the Congress by the presence of Lord Crewe at the opening ceremony.

The impression left on the mind by the week's work is that everything remains to be done in this country. There is revealed an enormous mass of remedial disease and disability among the children at our elementary schools. Isolated efforts are made here and there, but we want some comprehensive plan to deal with the existing deficiencies and to prevent their re-accumulation.

The attempts hitherto made have been limited to reducing the spread of the commoner zymotic diseases. This is not even the A B C of school hygiene. The doctor must enter the school, not merely as a sanitary official—for which, indeed, he is badly wanted

—but he must enter as physiologist and psychologist. He must become a real help to the educationalist by bringing a scientifically trained mind to bear on the physical and mental problems of child life. This is of greater importance than, shall we say, vaccination, which so many among us regard as the *ultima thule* of State aid.

We require not only proper medical inspection of our scholars but also their efficient medical treatment. The general practitioner must train himself to the new requirements of our civilisation. Our necessities have evolved out of the general practitioner an admirable public health officer; it must equally evolve the like able and energetic medical officers of education.

Subject to local necessities and control, these must be placed under a medical department of the Board of Education. The system that obtains with the appointment of the London Medical Officers of Health would be admirable. For duties efficiently discharged there must be fair payment. The doctor will not expect to realise the large fortunes of a very few individuals generally regarded as the leaders of the profession; nor must they expect to discharge their duties in the spare time of a large practice. We invite the large body of able young practitioners not to stand aloof, but to come inside the movement, which is bound to grow.

Now is the time for the profession to insist that medical investigation and treatment be only undertaken by properly qualified men. They must not allow these duties to be relegated to nurses and teachers, who, indeed, have no wish to have quite unfair responsibilities thrust upon them. The doctors themselves are most to blame.

In a paper on "The Work of the School Nurse," Dr. Duncan Forbes, of Cambridge, stated quite gleefully that a nurse had been appointed at an annual salary of £95. The teachers are provided with printed instructions as to symptoms and *the nurse verifies the diagnosis.* In ringworm cases she applies ointment. She visits and issues return certificates, and the children are allowed to return under conditions for which she is responsible. "She also tests vision, colour-vision, hearing, and carries on the routine work of medical inspection, thereby economising the time of the Medical Officer of Health enormously." Skin-specialist. eye-specialist, ear-specialist, apothecary, nurse, sanitary officer, all at £95 per annum! If only in their own interests medical men must not encourage this cheap sweated labour.

Little wonder that Dr. Cuntz stood aghast. This Wiesbaden authority, and founder of the first real method of school inspection, protested that in Germany the doctors did their own work, with the friendly co-operation of teacher and parent.

Dr. Cronin showed by actual results the cheapness and efficiency of medical treatment at school polyclinics. He strongly denounced the folly of allowing unqualified cheap labour to be substituted for the trained work of the doctor. The general practitioner can do the work, and, as Dr. Cronin showed, he does it better when he is employed by the State, relieved from the irksomeness of competing for fees.

One of the most spirited discussions arose upon Dr. Newsholme's paper, "The Lower Age Limit of School Attendance." The author contended that children under five years of age should be prohibited from school attendance. Where the mothers are, unfortunately, compelled to be at work, as is the case with widows and many others, Dr. Newsholme advocated the establishment of crèches, not to accommodate more than twenty-five children in two or three rooms. The opposition to these proposals came mainly from the teachers, who, in the interest of law and order, *i. e.* school discipline, were anxious to have the control of the babies at the earliest possible age. One or two medical men supported their view, which is known to be backed by Dr. Kerr. This authority maintains that 25 per cent. of the children have already had measles before the age of three years.

Despite this much-valued opinion we are wholly in sympathy with Dr. Newsholme. We think he established his point that fewer families would become infected if the restriction was compulsory.

Dr. William Butler also called attention to the frequency of measles and whooping-cough at the earlier age. He desired to see the admission age raised to seven years, which is higher than the German limit—six years. Dr. Butler's paper, with its valuable statistics, was unfortunately read after instead of before the discussion.

We are strongly of opinion that the school-room is the worst possible place for these mites. This quite apart from the influence of infectious diseases. These infants must have no restraint imposed upon them, there must be no curbing of their naturally energetic activities. It is quite impossible for any adult to be in charge of even twenty infants for a few hours without resorting to measures of discipline that are quite incompatible with child life. We defy the sweetest dispositioned of girls, or the most maternally gifted of women, to passively endure a class-room of infants at play for an hour.

There is a further real danger in allowing hundreds of babies at this impressionable age to have their ideas moulded for life by one or two teachers. As a people we suffer sufficiently from a lack of individuality—something quite distinct from, nay, the exact reverse of, individualism.

The papers at the Congress were, as a whole, of extreme value. The resolutions were sensible. We regret that a resolution carried in the section devoted to special schools for feeble-minded and exceptional children was obliged to be withdrawn at the general meeting. This resolution was the outcome of the great experience of doctors and teachers who had devoted themselves to the work dealt with in the section. It provided for the treatment at the public expense of these unfortunate children—a measure conceived in the true spirit of scientific statesmanship.

The result of the Congress must be to draw public attention to the deplorable physical condition of the nation's most valuable asset—its children. We shall have to provide for the medical inspection and proper treatment of these children. In this way can we alone, following the example of peoples wiser than ourselves, seek to compete with other countries on equal terms.

Abstracts from Current Literature.

Medicine.

Recent advances in the knowledge of tuberculosis in early life (*'New York Med. Record,' May* 18, 1907).—**Chas. Dunn,** of Boston, states that the most striking fact brought out by autopsy statistics is that the frequency of occurrence of tuberculosis increases regularly with the age. It is rare in the first three months of life and increases steadily throughout childhood, not only from year to year, but also, in the first two years, from month to month. Tuberculosis of infancy and childhood is essentially a disease of the lymphatics. Tuberculous adenitis represents the chronic tuberculosis of childhood, as phthisis represents the chronic tuberculosis of adult life. It is now generally recognised that the only source of tuberculous infection is the tuberculous man or animal. There are four theories as to the source of the infection: First, the congenital theory, that tuberculosis is always intra-uterine in origin, due to placental infection; second, that infection takes place from the inhalation of dried tuberculous sputum; third, that the source of infection is the fine moist drops expelled in coughing; fourth, that the source is the milk of tuberculous animals. The whole history of tuberculosis in early life, however is against the idea of any one exclusive source of infection; the chief factor is undoubtedly the surroundings of the infant. It is probable that in infancy the commonest portals of entry are the lungs, the tonsils and naso-pharynx, and the intestine. Corresponding to these three portals of entry we find primary involvement of the bronchial, cervical, and mesenteric lymph nodes. The most important diagnostic method which we now have at our disposal is due to the recent perfection of radioscopic diagnosis. Much discussion has taken place recently as to the possibility of recovery from tuberculous meningitis. Only three cases are to be found recorded in which undoubted recovery took place. The central problem is the conferring of artificial immunity. This is so complicated a matter that but little positive and practical results have so far been attained. JAMES BURNET (Edinburgh).

Inorganic late systolic pulmonary murmurs in infancy and childhood (*'Amer. Journ. Med. Sci.,' vol.* CXXXIII, *p.* 55).—**Samuel McC. Hamill** and **Theodore Le Boutillier** again call attention to the frequency of this murmur in young children and the ease with which it is mistaken for an organic murmur. They first define a cardio-pulmonary murmur as a short systolic whiff-like murmur heard loudest at the apex, whence it is transmitted to the left; it is heard best or only towards the end of inspiration. On the other hand, the late systolic pulmonary murmur under consideration is a long blowing post-systolic murmur which never obliterates the first sound, and which is heard best over the second or third left space; it is increased by exercise and is much loudest in the recumbent posture, and towards the end of expiration; there is no accompanying change in the size or position of the heart. A loud bilateral venous hum and arterial murmurs accompany this murmur, but anæmia is not necessarily present. The authors found this murmur in two thirds of eighty normal children examined; it is as frequent under the age of five as over. It has no pathological significance, but is important in that it may be mistaken for organic disease. It is most probably due to distension of the conus arteriosus.

ERNEST JONES.

The diagnostic and therapeutic value of lumbar puncture in epidemic cerebro-spinal meningitis (*'Giornale Internaz. delle Scienze Mediche,' anno* XXVIII, *Fasc.* 19, *pp.* 865–880).—**Arturo Primavera** reviews the literature of this subject and reports fully two cases that were carefully studied. He concludes: The therapeutic value of lumbar puncture in this affection is beyond doubt; it is greatest when employed in the early stage before irremediable lesions have been produced; its action is not merely palliative, but in a certain degree curative. As a diagnostic measure it is of the greatest importance, for the finding of a polymorphonuclear leucocytosis in the cerebro-spinal fluid (as well as in the blood) strongly supports the diagnosis of the above affection as against that of tubercular meningitis. ERNEST JONES.

Gastric ulcer in childhood ('*Amer. Journ. Med. Sci.*,' *vol.* CXXXIII, *p.* 135).—**Harry Adler** relates a case of this nature in a girl, aged 8 years. He reviews the literature of the subject and gives a description of the different varieties. These do not seem to differ in any important respect in children from those found in adults except as regards their extreme rarity. Koplik has never seen a case in the 300,000 children he has examined.

ERNEST JONES.

Infantile mortality and its principal cause—dirty milk ('*Amer. Journ. Med. Sci.*,' *vol.* CXXXII, *p.* 811).—**Charles Harrington** has a most valuable and comprehensive article on this subject. Anyone wishing to write particularly on the sociological aspects of the problem will find an ample collection of data here. The conclusions as to the remedies are obvious to the readers of this JOURNAL, so that the article need not be summarised here. ERNEST JONES.

On the practical value of the Tallquist hæmoglobin scale. ('*Giornale Internaz. delle Scienze Mediche*,' *anno* XXVIII, *Fasc.* 23, *p.* 1086). —**L. De Vendictis** gives a full review of the different methods in vogue for the estimation of hæmoglobin. He has examined forty cases of anæmia with the Tallquist scale, checking the results by Fleischl's apparatus. He concludes that the scale is remarkably accurate and that the errors are negligible in practice. ERNEST JONES.

Graves' disease in a child ('*Centralbl. f. Kinderheilk.*,' *Jahrg.* XI, *S.* 412).—**De Hartogh** showed a case of this nature before the Amsterdam Medical Society. The patient was a girl, aged 11 years, and the case was in all respects typical. He commented on the extreme rareness of such an occurrence. ERNEST JONES.

Arterio-sclerosis in a child ('*Centralbl. f. Kinderheilk.*,' *Jahrg.* XI, *S.* 354).—**Rach** showed the brain and kidney from a case of this nature before the Gessellschaft für Innere Medizin und Kinderheilkunde in Wien. The patient was a girl, aged 13 years. Two years previously, whilst under observation for symptoms of granular kidney, rigidity of the arteries suddenly set in. The child died twenty-four hours after the occurrence of hæmorrhage in the internal capsule. No cause for the condition was discovered, and syphilis, alcohol and lead were specifically excluded.

ERNEST JONES.

Aphasia complicating typhoid ('*Monatschr. f. Kinderheilk.*,' *Band* V, *S.* 398).—**W. Starkiewicz** reports the case of a boy, aged 10 years, who in the second week of a very atypical attack of typhoid became unable to speak. There was no other nervous sign present except some mental torpor which disappeared after a couple of days. Death took place a fortnight after the onset of the "aphasia." At the autopsy the usual findings of typhoid were present; in the brain nothing beyond hyperæmia was found.

ERNEST JONES.

The social care of children with speech defects (*'Monatschr. f. Kinderheilk.,' Band* v, *S.* 446).—**Gutzmann** read a paper on this subject before the Berlin Congress for the Care of Children, October, 1906. He estimates that there are 100,000 children who stammer (apart from other speech defects) in Germany. On an average 0·225 adult men stammer. In Germany at least 1000 men are rejected every year from military service on account of stammering alone. He points out the seriousness of this state of affairs from a social standpoint, and considers the steps that should be taken to remedy it. These are mainly two: systematic instruction of school teachers in the physiology of speech, and inclusion of the subject into the medical curriculum. Ernest Jones.

Hysteric psychoses in children (*'Monatschr. f. Kinderheilk.,' Band* v, *S.* 344).—**Th. Kathen** has written a thesis on this subject for the Kiel degree. He describes fully the case of a girl, aged 12 years, whom he had observed for nearly a year. Besides such manifestations as convulsions, analgesia, astasia-abasia, mutism, aphonia, etc., marked mental changes were present. They were predominantly of a depressive nature, and resembled katatonia. Kathen discusses the differential diagnosis.

Ernest Jones.

Diseases of the naso-pharynx in infancy (*'Buff. Med. Journ.,' May, 1907*).—The nasal passage of the infant is relatively small, especially the respiratory portion; it increases rapidly the first six months after birth, but very slowly afterwards. The naso-pharynx is very low at birth, but long from before back. The Eustachian tube is actually wider during infancy than in the adult; this explains the ease with which catarrhal processes travel to the middle ear in infancy. The connective tissue of the naso-pharynx is lax and extremely vascular, and the lymphatic vessels numerous. Acute rhinitis is a serious malady in infancy owing to a comparatively slight swelling completely closing the nose and preventing nasal respiration, this prevents proper breathing and sucking, and in feeble infants may even cause death. Diphtheritic rhinitis is much more common in infants than is usually supposed, it is generally of a mild type and is not suspected till other children develop pharyngeal or laryngeal diphtheria. It is perhaps the most common source of epidemics of the disease. The symptoms are mild: there is a little snuffles and a nasal discharge, thin, watery, and acrid, but rarely bloody. Such discharges should be examined bacteriologically. There is never any membrane visible, and there is no extension backwards to the pharynx. Adenoids are supposed to be uncommon in infancy: this is not correct, and the evil they produce is greater than in childhood. An early operation is practically devoid of danger, and would prevent the evil results which adenoids may produce at this age. Rickets and chest deformities are prone to develop, and impairment of nutrition owing to interference with sucking; they are restless at night owing to interference with respiration, and to an irritating cough, worse at night. Pharyngitis is common in infancy, and may cause a troublesome cough and paroxysms of difficult breathing; there is fever, and a secondary bronchitis is not uncommon. Glycerine of tannin applied locally seems of most use. Retro-pharyngeal abscess is a condition frequently overlooked, because the pharynx is not palpated; it interferes with respiration and moist râles are often heard in the thorax, the voice may be altered and sudden attacks of dyspnœa occur, and are a common cause of death in the cases which are not treated by incision. Otitis media is specially frequent in infancy owing to the anatomical peculiarities of the Eustachian tube; it may be due to extension of inflammation or to blocking of this tube. The disease is frequently overlooked owing to absence of earache and tenderness over the mastoid. These children are usually restless and grab at their ears or pull their hair; they often vomit, and have tenderness and rigidity of the neck with fever, which is often high. Convulsions are not infrequent. Meningitis, pneumonia, gastritis, and dentition are often suspected as the cause of the symptoms. In such cases the tympani should always be examined, and if pus be suspected in the middle ear the drum should be excised. This is a simple operation, and it is impossible to do harm.

J. Porter Parkinson.

Hereditary syphilis, spirochætes found in the blood (*'L'Echo Méd. du Nord,' June*, 1907).—**Petit** and **Minet** record the case of a child, aged 5 months, who had generalised œdema, nasal discharge, enlarged abdomen, with prominent subcutaneous veins. The liver was enlarged and hard, and the spleen palpable. The child died of melæna and hæmatemesis. The liver weighed 347 grms., was hard, and of the colour of chamois leather; there were no gummata. Microscopically the hepatic tissue was profoundly altered. There was a generalised fine fibrosis, and in patches complete fatty degeneration of the parenchyma, resembling that seen sometimes in infectious diseases. The blood showed 1,890,000 red corpuscles and 18,600 white. Polynuclears 30 per cent., lymphocytes 36 per cent., large mononuclears 18 per cent., myelocytes 4 per cent. This resembles the blood-count of the pseudo-leukæmia of von Jaksch. The *Spirochæta pallida* was also found in the blood from the heart, which was centrifugalised and stained for twenty-four hours by the Giemsa method. Delearde has also recently demonstrated the same organism in blood obtained during life from a superficial vein and stained by the method of Nattan-Larrier. These two successive cases show that the blood of infants with congenital syphilis contains the spirochæta. J. Porter Parkinson.

Reappearance of diphtheria under the influence of measles (*'Journ. de Méd. de Paris,' June*, 1907).—**Barbier** considers that measles or scarlet fever co-existing with diphtheria create complicated clinical types having a more severe onset and a more grave prognosis, and they also modify the course of diphtheria, rendering it less curable by the serum treatment. He gives three examples showing that past or latent diphtheria may be awakened under the influence of one of these two eruptive fevers. In one case, six weeks after serum treatment for diphtheria, in the course of measles a false membrane appeared on the nasal mucous membrane, and in this the Loeffler bacillus was demonstrated. In the second case ocular diphtheria appeared in the course of measles thirty days after the injection of anti-diphtheritic serum as a preventative measure. The third case was one where scarlet fever appeared on the fifth day after recovery from diphtheria, measles appeared on the seventeenth day, and at the same time a false membrane was discovered in the mouth in which Loeffler's bacillus could be demonstrated. In all these cases a fresh injection of antitoxin was given, causing a prompt disappearance of the symptoms.

J. Porter Parkinson.

Albuminuria in the course of impetigo in infants (*'Journ. de Méd.*

de Bordeaux,' May, 1907).—**Auche.**—Albuminuria complicating impetigo is fortunately rare, though several cases have been recorded. A child, aged 2 years, who had suffered from impetigo for four weeks, developed universal subcutaneous œdema. The urine contained a small quantity of albumin, red and white blood corpuscles, and a few casts; there was a good deal of enlargement of the lymphatic glands about the area of the eruption, but no fever. Cultivations from the urine showed large numbers of streptococci, and the same organism was obtained in pure culture from the skin lesions. In the second case a boy, aged 13 years, developed œdema of the face secondary to impetigo of the scalp. The urine contained a gramme of albumin to the litre. Both cases improved under treatment, and left the hospital without dropsy and with only traces of albumin in the urine. The kidney complication in these cases seems to be due to the transport of toxins from the skin lesions to the kidney, where they irritate the epithelium and provoke nephritis and albuminuria; the organism may be also carried in the blood to the kidney. It has been demonstrated in the blood in these cases.

J. Porter Parkinson.

Emetics in infants (*'Journ. de Méd. de Paris,' June,* 1907).—Emetics in infants are indicated in all broncho-pulmonary affections, especially at the commencement of the malady; often a single vomit relieves bronchitis at the commencement, or pulmonary congestion, or impending asphyxia, but they ought not to be given to weak or anæmic children. An infant does not expectorate till the age of six or eight years and so it is necessary to relieve the lungs and stomach of abnormal contents. Ipecacuanha is the drug most recommended, but sulphate of copper is a sure and excellent emetic.

J. Porter Parkinson.

Resistance of the integuments of the Ascaris lumbricoides to human digestive juice (*'Journ. de Méd. de Bordeaux,' May,* 1907).—**Crouzel**, by experiments *in vitro*, shows that the envelope is not affected, even by long digestion, by pepsin or pancreatin, owing to its chemical composition, and there is no need to assume any antikinase secreted by the ascaris itself. After prolonged digestion the internal organs were without adherence to the external envelope, but the genital tube was quite unacted upon. It is certain, then, that the worm is expelled entire by vermifuges, and not in a partly digested state.

J. Porter Parkinson.

Measles conveyed by a healthy third person (*'Arch. de Méd. des Enf.,' May,* 1907, *p.* 292).—**Roch's** two sons, aged 20 months and 5 months respectively, were confided to a nurse who was called to see her own child on January 7, and finding it in the eruptive stage of measles conveyed it to hospital in a carriage, keeping it all the time in her arms. Half an hour after leaving it at the hospital she was back with Roch's children again, returning in a closed carriage. On the 17th the eldest child seemed out of sorts, and began to cough; on the 18th and 19th he had slight sore throat, conjunctival and nasal catarrh, and on the 20th the eruption of measles appeared. The youngest child began coughing on the 14th; on the 17th and 18th he had slight fever with coryza and vomiting, but nothing further developed. No other source of infection but that of the nurse could be traced. Special conditions are required to bring about the conveyance of the contagion of measles by a healthy person, which were realised in this case, viz. a rapid transit from the infectious person to the one who becomes

infected, and an intense impregnation of the intermediary (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, February, 1907, p. 73).
J. D. ROLLESTON.

Sudden death in children (‘*La Semaine Méd.,*’ *April* 17, 1907, *p.* 181). **Cheinisse** thinks there is too great a tendency to attribute all such cases to hypertrophy of the thymus. When this has been found at the autopsy one is too often satisfied with a rapid and superficial macroscopic examination of the thoracic viscera. Since the researches of the Leipzig school it is known that the myocardium may present important microscopic lesions, although it may appear almost normal to the naked eye. Cases of sudden or rapid death in children suffering from eczema have been published, at whose autopsy grave cardiac lesions have been found. Sudden death is often due to hereditary syphilis, tubercle, or certain chronic intoxications, and in children who live a few hours or days after birth it may be caused by a difficult labour, premature birth, or some pathological condition of the mother. J. D. ROLLESTON.

Pneumonia with intermittent pyrexia (‘*Presse Méd.,*’ *June* 8, 1907, *p.* 363).—**Martinet** records the case of a boy, aged 4½ years, in whom the clinical symptoms of lobar pneumonia were associated with an intermittent temperature. Malaria could be absolutely excluded, for the child, who was born of French parents, had always lived in Paris, and had never had any previous attacks, and quinine had no effect upon the temperature. This type of pneumonia is rare and is not mentioned by most writers. [Three cases, however, have lately been published in the BRITISH JOURNAL OF CHILDREN'S DISEASES, 1906, pp. 148, 149, and 545.—J. D. R.]
J. D. ROLLESTON.

Venereal diseases in children (‘*Med. Record,*’ *April* 20, 1907, *p.* 643). —In the examination of 900 children who were the alleged victims of rape or of indecent assault, **Gibb**, of New York, found that 117, or 13 per cent., were suffering from venereal disease; 81, or 9 per cent., had gonorrhœal vaginitis, vulvitis, or urethritis; 2½ per cent. had multiple soft chancres of the genital tract or anus; 1 per cent. had venereal warts. There were 3 cases of gonorrhœal arthritis and 2 of gonorrhœal proctitis in boys. There were not more than 2 or three cases of syphilis altogether, probably because the examination was made very shortly after the alleged crime, and the children were not seen later. The ages of the children affected ranged from three to sixteen years. The prevalence of venereal disease in children in New York, which Gibb thinks is greater than is commonly supposed, is attributed by him mainly to overcrowding, to the presence of a large, intemperate, and superstitious foreign population, and to the precocity and low moral standard of the children. J. D. ROLLESTON.

The pigmentary syphilide in children (‘*Thèse de Paris,*’ 1904).—**Caillat** attaches much importance to the pigmentary syphilide of the neck in the diagnosis of acquired syphilis in children. It is of long duration, is unaffected by specific treatment, and is equally common in both sexes in childhood, though in adult life women are most frequently affected. In drawing attention to the presence of syphilis and so instigating a search for the cause of the contamination the phenomenon has considerable medico-legal importance. J. D. ROLLESTON.

Diphtheria in the Metropolitan Asylums Board hospitals ('*M. A. B. Reports*,' 1906).—Five thousand two hundred and eighteen cases of diphtheria were admitted during 1906. The mortality was 8·8 per cent., a slight increase over the previous year (8·3), when it was the lowest recorded in these hospitals: 4149 were treated with antitoxin. Of these 432 died—a mortality of 10·4 per cent. The mortality at the various hospitals varied from 7·2 to 15 per cent. Of the 788 not treated with antitoxin 12 died. These were either moribund on admission or were late cases with clean throats. Cardiac involvement accounted for 317 deaths, broncho-pneumonia for 26, and paralysis for 13. Among 702 laryngeal cases there were 127 deaths—a mortality of 18·1 per cent. On 263 tracheotomy was performed, on 79 intubation, on 32 both operations, among which there were 93, 8, and 17 deaths respectively. The percentage error of diagnosis in the cases admitted was 18·3. Among 959 cases wrongly certified as diphtheria were 47 of measles, 627 of tonsillitis, 20 had no obvious disease, and ten were not diagnosed. Of complications, cardiac paralysis occurred in 2·53 per cent., other forms of paralysis in 10·98 per cent., and albuminuria in 27·97 per cent. Serum rashes occurred in 30·66 per cent., the percentage varying from 58·7 in one hospital to 10·4 in another. Joint pains occurred in 4·92 per cent., the percentage varying from 8·2 in one hospital to 0·9 in another. Instructive tables are given on pp. 188 and 189 summarising the antitoxin treatment at the Board hospitals from 1895–1906. Among 235 cases treated at the Brook Hospital during the years 1897–1906 on the first day of disease not a single death occurred, whereas of 1441 second-day cases the mortality was 4·30 per cent., of 1600 third-day cases 11·12 per cent., of 1276 fourth-day cases 17·24 per cent., and of 1645 cases treated on the fifth day and later 18·72 per cent. J. D. Rolleston.

Scarlet fever in the Metropolitan Asylums Board hospitals ('*M. A. B. Reports*,' 1906).—Seventeen thousand nine hundred and thirty-three scarlet fever patients were admitted in 1906; 521 died—a mortality of 2·9 per cent.; 323 died of the primary disease. Broncho-pneumonia caused 36 deaths and nephritis 25. Of superadded diseases measles caused 11 deaths and diphtheria 7. The percentage error of diagnosis in the cases admitted was 5·2 per cent.; 932 cases were found to have other diseases, among which were 93 of measles, 85 of rubella, 138 of erythema, 145 had no obvious disease, and 82 were not diagnosed. The commonest complications were otitis (13·21 per cent.), albuminuria (10·07 per cent.), secondary adenitis (5·81 per cent.), nephritis (4·72 per cent.), and rheumatism (2·87 per cent.); 299 cases, or 1·68 per cent., had relapses. There were 188 cases of post-scarlatinal diphtheria with 5 deaths—a mortality of 2·66 per cent.

J. D. Rolleston.

Tubercular lymphadenoma in childhood ('*Arch. de Méd. des Enf.*,' *March*, 1907).—**Weill** and **Lesieur** state that tuberculosis may cause, in children, a chronic generalised adenopathy, having the appearance of typical lymphadenitic tumours (tubercular lymphoma). This tubercular pseudo-lymphæmia may be accompanied by anæmia and enlargement of the spleen and liver (a leukæmic pseudo-lymphæmia). Clinically, the course of the disease may be accompanied by fever of a continuous, intermittent, or inverse type. Microscopically the glandular lesions differ from an acute tubercular adenitis by the presence of a marked sclerosis and the more or less complete absence of caseation. The tubercle bacilli obtained from these lymphomata attack lymphoid tissues especially, as in the guinea-pig a slow tuberculosis affecting the glands almost entirely is found as the result of inoculation.

T. R. WHIPHAM.

Encephalitis ('*Arch. of Pediat.*,' 1907, *vol.* XXIV, *p.* 363).—**I. A. Abt** reports two cases of acute non-suppurative meningitis in a boy and girl, each aged 5 years. Strumpell, in 1884, first described an acute polio-encephalitis analogous to acute polio-myelitis, both dependent on the same infection. Freud estimates that one third of the cases of cerebral palsy are infectious in origin. Batten classifies cases into: (1) acute polio-encephalitis superior, including those cases of paralysis in which the frontal, motor and occipital regions of the cortex are affected; (2) acute polio-encephalitis inferior, in which the nuclei of the cranial nerves are involved; (3) acute polio-myelitis anterior, in which the grey matter of the anterior horns below the medulla is affected. It is thought that the cord and brain may be affected at the same time. The girl was taken suddenly ill with headache, fever, and increasing unconsciousness. Ten days later generalised palsy was noted. The left side recovered, but right hemiplegia persisted. Speech was lost at first, but intelligence was not permanently affected. The onset in the boy was less sudden. Recovery ensued, leaving behind a certain amount of crossed paralysis, indicative of a lesion in the pons. The etiology of this affection is summed up as infection and intoxication. Acute alcoholism may play a part in older children. Infection is the most common cause. Cases have been ascribed to most specific fevers and infective disorders. Some are due to influenza. Pfeiffer's bacillus has been found in the brain and ventricles. Cantani has produced the disease in rabbits by injection of cultures of dead influenza bacilli. In many instances the source of infection cannot be traced. The disease is much more prevalent in infancy, perhaps because of the developmental state of the brain. Any portion of the brain may be affected. The disease is usually focal, but the foci may be multiple. Locally it may end in necrosis or scarring, that is, sclerosis. Signs of general infection may be found, such as enlarged spleen, haemorrhages into intestines and mesentery, myocardial degeneration, and acute nephritis. The main symptoms are the sudden onset, fever, vomiting, coma and convulsions. Complete recovery may occur. Usually slight palsy remains. Some die as early as the first day, before a diagnosis can be made. Others die in the second or third week. If occurring in the course of acute infectious disease death may be due to the cerebral condition or to the original disease. Some cases improve in a few days and have no sign of the disease at the end of six to eight weeks. Hemiparesis and epilepsy are not uncommon sequelæ. Deaf-mutism may be due to the affection. Most cases with initial flaccidity develop later a spastic type of hemiplegia. During the acute stages the diagnosis from meningitis and from an acute specific fever is difficult. Lumbar puncture affords little assistance. Later on hemiplegia or cranial nerve palsy, with return of consciousness, renders the diagnosis comparatively easy. Psychic disturbances and idiocy may be produced.

EDMUND CAUTLEY.

Gastritis in congenital pyloric obstruction ('*La Presse Méd.*,' *May*, 1907, *No.* 36, *p.* 284).—**R. Romme** draws attention to the cases published by **Bloch**, of Copenhagen ('*Jahrb. f. Kinderheilk.*,' 1907, *vol.* XV, *p.* 477), which show the importance of this complication. Vomiting, which is usually the first symptom of pyloric obstruction, may, according to Bloch, only show itself two, three, or even four weeks after birth. When once established it persists, occurring frequently at the commencement; the intervals afterwards become considerably prolonged, so that the little patient only has four, three, or even two attacks daily. The tolerance of the stomach becomes increased gradually, so that at a late period the milk is coagulated and has a fœtid odour. It is at this period that peristaltic movements of the stomach are most noticeable, and Bloch remarks that in the earlier period, when the stomach tolerates nothing and remains always empty, these peristaltic movements rarely occur, whereas later, when the vomiting becomes less frequent, they become more marked. Among the autopsies made by Bloch one is particularly interesting. The case was that of a suckling who eventually became completely cured after having had for four weeks symptoms of congenital pyloric obstruction—he succumbed six months later to an attack of acute enteritis—the pylorus was found just as hypertrophied and just as constricted as in children who die of pyloric stenosis. In the majority of his cases Bloch employed lavage and found that the washings always contained mucus and frequently pus, which he considers indicative of the presence of gastritis, and its importance by the therapeutical results that he has obtained in his patients. Of these, the first six were treated by a diet with the object of modifying and, if possible, stopping the vomiting. Small quantities of diluted milk or milk foods were given; sometimes the infant was put on water diet. Of these six, four died, two after laparotomy. In the remaining six cases an attempt was made at the same time to counteract the gastritis and the fermentations by regular lavage and the administration of butter-milk. All these six infants recovered and seem to point to the conclusion that the gastritis holds the therapeutical solution of this affection, in which laparotomy is not always attended with good results.

VINCENT DICKINSON.

On the diagnosis of tracheo-bronchial adenopathy in children by radioscopy (*'La Clin. Infant.,' May*, 1907, *No.* 9, *p.* 257.)—**M. G. Variot** examined a large number of children suspected of or attacked by this local manifestation of tubercle. He considers that a kind of *expiratory* bronchial "roaring" (cornage), not uncommonly met with in children and quite distinct from the noise of congenital laryngeal stridor which is always louder on inspiration, is due to hypertrophied glands narrowing the calibre of the air passages when the thorax sinks in during expiration. Whenever nurslings who were the subjects of this roaring were examined by radioscopy, abnormal opacities were noticed touching laterally the dark zone of the spine and the mediastinum. The author considers that the co-existence of the roaring and the lateral opacities is sufficient to confirm the existence of tuberculous tracheo-bronchial adenopathy at an early age. VINCENT DICKINSON.

Orthostatic albuminuria (*'Berlin Med. Gesellsch.,' January* 7, 1907; *'Münch. med. Wochens.,' January* 15, 1907).—**Heubner** having initiated a discussion on functional albuminuria, Langstein stated that he had observed 115 genuine cases, representing an occurrence of orthostatic albuminuria in 5–12 per cent. of the children attending his out-patient department. He believed that, although the condition by no means invariably developed subsequently to nephritis following upon some infectious ailment, nephritis originating in this fashion frequently assumed an orthotic type in its later course. Orthostatic albuminuria was not unfavourably influenced by the occurrence of infectious diseases; in this condition the percentage of albumin in the urine presented greater periodical variations than in nephritis. Baginsky expressed the view that so-called functional albuminuria is frequently developed from a nephritis. Fürbringer, as the result of the experience of many years, considered that the prognosis in orthotic albuminuria was always favourable, cure being possible and the duration of life not being affected by its existence. In one case he had experimentally permitted alcohol, meat extracts, spices, and cold baths to the patient, with the result that the albumin had diminished rather than increased in amount.

E. P. Baumann (Johannesburg).

The goat and its milk (*'Brazil Med.,' May* 8, 1907). —**Travassos** publishes an instalment of his monograph on goats, in which he deals fully with their natural history, and rearing, and with the great value of the milk, especially in tropical countries. The goat should be milked only at the time when the infants are to be fed. The teats must be washed with warm water and the milk drawn at once into a clean, warm bottle. This should be taken whilst still warm direct to the infant. Goats thrive well in the tropics, and on any or almost without any kind of food. They are remarkably little subject to disease, barring, as is well known, a marked immunity to tuberculosis. The subject deserves attention from those who have the care of children in tropical countries where cow's milk is often difficult to obtain.

M. D. Eder.

Pathology.

Contribution to the pathological anatomy of Mongolism (*'Monatschr. f. Kinderheilk.,' Bd.* v, *S.* 233).—**Paul Lange** gives first a review of the various morbid anatomy findings by various authors in this affection. He mentions particularly the cortical pial gliosis, the lack of development of the after-brain, the microscopic changes in the thyroid, and the healthy state of the bones and thymus. He then describes fully the case of a Mongol maid who died of diphtheria at the age of eight. It was carefully investigated post mortem, but unfortunately a microscopical examination of the brain was omitted, which greatly detracts from the value of the observation. Lack of development of the convolutions was found. There was some colloidal degeneration and slight proliferation of the interstitial tissue in the thyroid, but the author attributes no importance to them. There was no evidence found for Virchow's view of a primary synostosis at the base of the skull.

Ernest Jones.

Primary adeno-carcinoma of the liver in an infant, aged 4 months (*'La Pediatria,' March*, 1907, *p.* 179).—**G. A. Petrone** gives a full report of this case, and remarks on malignant hepatic tumours in infancy. Patient was a female child at the breast, aged 4 months, and for the first two months of life seemed in robust health, but afterwards developed gradual malnutrition; a fortnight later swelling of the abdomen was noticed. On admission to the Children's Clinic at Naples she was slightly icteric; no glands could be felt, the abdomen enlarged and globular, circumference 46 cm. The liver was felt as a hard elastic swelling with a sharp lower edge. Spleen not enlarged, no ascites, urine albuminous with traces of bile pigment and glucose. Death occurred after ten days. At the autopsy the liver occupied almost the entire abdominal cavity; its increase of size was almost entirely limited to the large lobe, which was globular, irregular, with a variegated aspect due to marks of yellow, green, and reddish-brown. On section, the mass was seen to be occupied by a softish tumour, whitish-yellow, and in some parts cavernous. Only a thin layer of hepatic tissue remained at the periphery. The liver weighed 970 grms. The pancreas was smaller than normal, spleen of normal size, slightly hyperæmic. Histologically the liver showed an adeno-carcinoma, trabeculæ with masses of epithelial elements of various sizes and form, with the presence of tubules. There were metastatic deposits in the lungs and in the mediastinal and abdominal lymphatic glands. If sarcomata, says the author, are generally more frequent than carcinomata at an early age, a connective-tissue origin must be admitted, but later statistics show that in the liver carcinoma is the more frequent. Moreover, sarcomata are rarely and only at a late stage accompanied by jaundice, ascites, and enlarged spleen; in this case the absence of ascites and splenomegaly, and the late appearance of slight jaundice would have favoured the diagnosis of sarcoma.

VINCENT DICKINSON.

The pathology of achondroplasia ('*La Pediatria*,' *March*, 1907, *p.* 168).—**A. Cavazzani** publishes in full this interesting and unique case, which may thrown some light on the pathology of this disease. The child, a male, aged 3 years, measuring 66 cm., was a typical case, and had been treated with thyroid extract without any appreciable effect. The daily use of the faradic current, massage to stimulate the trophic processes, and continuous traction during the night by means of weights to the legs, and administration of pituitary gland, produced an increase in stature to 90 cm. in about two years. About this time the child's mother came under the notice of the author for symptoms of Basedow's disease, which had commenced after the birth of the achondroplasic infant, and she confessed that shortly after the birth of the previous child, perceiving a tendency to obesity, she had begun to take preparations of thyroid gland with a view to getting thinner. She pushed this treatment energetically for some time, taking the largest quantity of thyroid tablets before and during her pregnancy with the achondroplasic child, during which she did not perceive any harmful effect until the symptoms of Basedow's disease developed. In several cases of achrondroplasia a condition of morbid intoxication in the mother during pregnancy has been noted. Thus Porak and Durante reported a case of acute degeneration of the liver with toxic renal symptoms in the mother of an achondroplasic; Mugia described another case of a nephritic woman who died of eclampsia three days after giving birth to an achrondroplasic fœtus. In the author's case there was evidently a chronic intoxication in the mother, but the interest is increased by the nature of that intoxication, by the mother being poisoned during the whole of her pregnancy with the child with thyroid extract, which naturally points to some relation with it and the pathology of fœtal chondro-dystrophy. The author admits that it may be mere coincidence, but it is very suggestive and worth further investigation, especially when taken in conjunction with the extraordinary tolerance of thyroid intoxication shown by the mother when pregnant with the achondroplasic fœtus and by the infant itself during the attempted treatment by thyroid extract. Besides this, the case confirms the uselessness of thyroid opotherapy in this disease, and the advantage of treatment by physical means.

VINCENT DICKINSON.

A case of mixed-celled leukæmia ('*Glasgow Med. Journ.*,' *vol.* LXVI, *No.* 4, 1906).—**L. Findley** records a case of this disease occurring in a boy aged 11 years, who came under observation at the end of the sixth week of his illness. The patient, who was extremely anæmic, presented a petechial rash on the body and limbs; there was no œdema anywhere, no signs of a cardiac or a joint affection, and the liver and spleen were not enlarged. Death occurred five days after admission. Examination of the blood revealed a leucocytosis (40,000 per c.mm.) with considerable diminution of the hæmoglobin and red corpuscles. The leucocytosis consisted of a great increase of both the granular and non-granular cells. The granular cells, which constituted 65 per cent of the total leucocytes, were almost entirely neutrophile myelocytes. Of the non-granular cells two types were observed: (1) A small cell conforming in all its features to the small lymphocyte and showing an increase suggestive of lymphatic leukæmia; and (2) a larger cell, probably an embryonic myelocyte, and thus suggestive of a myelogenous lesion. Post-mortem examination demonstrated changes in the spleen, liver, glands, and other organs typical of leukæmia. There seemed no doubt, therefore, that the case was one of hyperplasia of both the myeloid and adenoid tissues. E. P. Baumann (Johannesburg).

A case of congenital anæmia associated with jaundice ('*Scot. Med. and Surg. Journ.,*' *September*, 1906).—**A. H. Buchan** and **J. McGibbon** record the case of a new-born child suffering from jaundice, with remarkable blood-changes. The child at birth was in a condition of asphyxia pallida from which, however, it soon recovered, and it was then noted that the whole body was of a peculiar lemon tint. On the fourth day after birth the liver and spleen were observed to be enlarged, whilst the discolouration of the skin had deepened into a tinge resembling that of catarrhal jaundice, the sclerotics alone remaining clear. During the second week the skin again assumed a lemon tint, although the liver and spleen became progressively enlarged. The lymphatic glands of the body generally were increased in size. At the end of the fifth week the spleen extended to a point midway between the costal margin and the umbilicus. Treatment by arsenic was adopted, and in the seventh week the yellow tint of skin had almost entirely faded, the liver and spleen were barely palpable at the costal margin, and no glandular enlargement could be detected. The patient continued to thrive steadily, and at the age of nearly two years was a healthy and well-developed child. During the illness the blood revealed a profound degree of anæmia with a high colour index and a large number of megaloblasts. In an adult these conditions would at once suggest the diagnosis of pernicious anæmia, although there existed a degree of leucocytosis (nearly 30,000 leucocytes per c.mm.) which would require some explanation. In a young infant, however, when the patient has not long passed a stage of development in which the normal form of blood-production is megaloblastic in type and a reversion to this type may readily occur, these conditions have not the same significance. The possibility of lymphatic leukæmia was considered, but while the unusual number of erythroblasts might have been referable to the age of the patient, this condition seemed improbable in view of the comparatively low total and relative lymphocyte counts. The number of myelocytes was too low for even "acute" spleno-medullary leukæmia. The case showed more points of similarity to von Jaksch's type of anæmia—pseudo-leukæmia infantum, the features of similarity being constituted by the splenic enlargement, the leucocytosis of polymorphic character, the severe anæmia with its poikilocytosis and erythrocytes, and the virtual recovery of the patient. In the absence of other explanation the jaundice was probably the result of an acute toxæmia due to some profound chemical disturbance rather than to the products of bacterial invasion. No special symptom had been noticed during the pregnancy suggestive of a toxic process, but the possibility of a toxæmia originating on the maternal could nevertheless not be excluded. E. P. BAUMANN (Johannesburg).

Primary intestinal tuberculosis in a nursing baby (*'Arch. of Pediat.,'* 1907, *vol.* XXIV, *p.* 297).—**I. M. Snow** reports a case in a girl, aged 3 months, the second child of healthy parents. Death was due to miliary tuberculosis of the lungs, spleen, and skin; caseous bronchial and mesenteric glands, and a large tuberculous ulcer of the ileum. The elder child died after an illness of six weeks. The patient was ill for about two months. Both were probably infected by a tuberculous nurse. The mother's milk contained no tubercle bacilli. Infection from a tuberculous attendant is not uncommon. Reich ('Berlin. klin. Woch.,' 1878) records that in a town of 1300 inhabitants the obstetric practice was divided between two midwives. One of these was tuberculous and within fourteen months ten infants she had delivered died from tuberculous meningitis. The nurse practised mouth-to-mouth aspiration and blowing into the nose of the newborn. The other midwife treated her babies in the same way but none died. Other allied cases have been reported by Marface and Demme. In Snow's case, although there was an extensive girdle ulcer the stools were normal until the last day, but at the autopsy the fæcal contents contained tubercle bacilli. The bacilli were also present in the tuberculous skin-pustules—a rare lesion. EDMUND CAUTLEY.

Lactic acid bacilli and intestinal fermentation (*'Arch. of Pediat.,'* 1907, *vol.* XXIV, *p.* 241).—**C. H. Dunn** distinguishes between infectious and fermental diarrhœa. In the former there is persistent fever with blood and mucus in the discharges. In the latter fever is brief or absent, stools green and foul, and signs of ileo-colitis are absent or develop late in the illness. Tissier found the *Bacillus bifidus* was the predominant organism in the dejecta in health, and ascribed fermental diarrhœa to the *B. perfringens*, a Gram-positive large rod which attacks proteids and forms toxin. Possibly the frequency of the disease in the bottle-fed is due to the excess of proteid in cow's milk. As recovery takes place the *B. bifidus* reappears and the abnormal organisms disappear. He also found that in carbohydrate culture media the *B. bifidus* inhibits the growth of *B. perfringens*, and that the reverse holds good in media without carbohydrates. Tissier concludes that the fermenting material should be removed by purgation and water diet, and that the growth of the normal intestinal flora should be encouraged by a diet weak in proteid and rich in carbohydrate, and that organisms which inhibit the growth of abnormal forms should be given. He found that the *B. lactis* inhibits the *B. perfringens* and gave pure cultures of this organism, with the result that his patients rapidly improved. Bienstock has shown that this organism presents the putrifying action of the *B. putrificus*. The organism is a harmless one, so may be given without risk of injury. Buttermilk contains it in large quantities. It has usually been given in a cooked form. Dunn tried it in several cases. The milk was first pasteurised, then inoculated with a pure culture of the bacillus, and ripened until the growth of the organism caused proper acidity and precipitation of the casein. In twenty-three out of thirty-five cases the result was favourable; in three an immediate cessation of the diarrhœa ensued, but the child did not gain weight; in nine there was no effect produced. Most of the cases had not responded to ordinary routine methods. Five of the cases were of the irritative type and were not improved at all by the treatment; so, too, two cases of the infectious type. Thus, only two out of twenty-eight fermental cases did not respond and three partly responded, the rest being successful. These good results did not occur if the butter-milk was pasteurised first, and therefore were not due merely to its qualities as a food. The living lactic acid bacilli stop the fermentation, but the food must be suited to the needs of the individual child. EDMUND CAUTLEY.

Tuberculosis of the peri-tracheal bronchial glands ('*La Semena Med.*,' *April* 25, 1907).—**Villarroel** reports the second case that he had seen of this condition. A child, aged 3 years, was brought to the hospital with general cyanosis. The history was that the previous night there had been some difficulty in breathing, but the next morning the child seemed well and took its food. About midday it was seized with coughing, suffocation, and cyanosis. In view of the urgency intubation was performed, and afterwards examination was carried out. There was slight erythema of the pharynx, the tonsils somewhat hypertrophied, a severe swelling of the submaxillary glands. Respiration irregular with prolonged expiration. Resonance normal on the left side, dulness in the right; no expansion of the lungs. On auscultation over trachea normal; absence of breath-sounds on the right side. Pulse 125, small. The child died shortly after admission. An autopsy showed that there was tuberculous tracheo-bronchial adenitis, most marked on the right side. A perforating tracheal ulcer on the inferior anterior aspect towards the right. The lumen was obstructed by a caseous mass continuous with the glands. Tuberculosis of liver, spleen, mesenteric glands, kidneys, and intestines. M. D. EDER.

Therapeutics.

Summer diarrhœa in infants ('*Pediatrics*,' 1907, *vol.* XIX, *p.* 327).—**H. Dessau** ascribes summer diarrhœa to factors such as prolonged summer heat, tyrotoxicon, and similar poisons in milk, curdling of milk in the stomach by the lactic acid and the other acid-producing organisms, and various bacteria, such as the *Bacillus coli* and Shiga's bacillus. In the management of these cases he lays stress on physical, physiological, and mental rest, which must be secured by attention to diet, handling of the patient, cleanliness, hydro-therapeutics, fresh air, and quiet. Rest diminishes heat production. Food must be easy of digestion and unsuitable as a culture medium for bacteria. Partially-converted starch fulfils these conditions In all cases at once change the diet to pure water, toast and water, barley-water or rice-water, given in small quantities every one or two hours. The return to pasteurised or breast-milk should be gradual. Therapeutic indications are to clear out the intestinal canal, check fermentation and eliminate toxins. Give castor oil, magnesium sulphate, Rochelle salts or fractional doses of calomel (gr. $\frac{1}{10}$ every half hour or hour). For high fever, with vomiting and restlessness, clear out the large intestine by irrigation with normal saline solution at 70° F. This method, in addition, reduces temperature, permits absorption of a certain amount of fluid, and flushes the kidneys. Hot irrigations at 112° F. are more useful in cholera infantum. Lavage is valuable for persistent vomiting. Check fermentation by salts of bismuth in doses of 5–10 gr., suspended in mucilage and combined with

$\frac{1}{8}$ gr. of grey powder. Bichloride of mercury, gr. $\frac{1}{100}$, is valuable for dysenteric cases. Lactic acid, 1–5 drops in water every two hours, is useful for green, excoriating stools. The buttermilk treatment is based on this. Carbolic acid is also recommended. After the intestinal tract has been cleared out and the food reduced as directed, a small dose of paregoric may be given to relieve pain and procure sleep. Astringents, such as tannigen, kino, and krameria, must not be used during acute stages. Obstinate vomiting can be checked by vin. ipecac. ♏ $\frac{1}{5}$, cocain hydrochlor. gr. $\frac{1}{10}$, or chloretone gr. $\frac{1}{2}$. Hypodermic injection of 3 drops of a 10 per cent. solution of chloral hydrate, or 3 drops of sulphuric ether, produces wonderful results in the collapse stage of true cholera infantum. Alcohol is valuable for exhaustion: lacto-phosphate of lime for secondary furunculosis; vin. ferri for the hydrocephaloid state. EDMUND CAUTLEY,

Otology, Laryngology and Rhinology.

A case of chronic otitis media, hæmorrhage into the external auditory canal, perforation of the wall of the pharynx, with fatal hæmorrhage from the jugular vein (*'Boston Med. and Surg. Journ.,' July* 4, 1907).—**Jack**, of Boston, records a very interesting case, with a post-mortem report by **Verhoeff**. A female child, aged 2½ years, had never had any illness or ear trouble before the attack from which she died. There was a history of pain for two weeks, right purulent otorrhœa for several days, and post-aural swelling for one week. The meatus contained blood-clot. A large, tender swelling over the mastoid tip extended about one inch below and one and a half inches posteriorly. Two hours after admission there was severe hæmorrhage from the nose and mouth, and in spite of artificial respiration, with adrenalin and normal salt solution subcutaneously, the child died. The only pathological condition appeared to be centred round the ear. Nostrils and right meatus were filled with clotted blood. The soft tissues under the temporal bone, containing the carotid artery and jugular vein, were infiltrated with blood from a large hæmorrhagic extravasation. This communicated with the pharynx just below the mouth of the Eustachian tube. It extended outward to the angle of the jaw, forming the swelling over the mastoid tip, and communicated with the lumen of the auditory canal at its bony margin. The tympanic membrane was intact, but retracted and united to the promontory as the result of old perforation. Tympanum, Eustachian tube, attic and mastoid cells were full of exudate, but free from blood. The ossicles were *in situ*, and several small polypi were attached to the inner tympanic wall. The carotid artery was intact. Histological examination showed characteristic appearances of suppurative otitis media in the tympanum. Large purulent areas were seen in the tissues the seat of the large hæmorrhage, and the wall of the jugular vein passing through it was completely necrotic. The only bacteria found were numerous streptococci in short chains and pairs. MACLEOD YEARSLEY.

Surgery.

The most frequent hernia in childhood and its significance (*'Lancet,' July* 13, 1907).—**Edred M. Corner** contributes a very instructive paper on this subject in which he says that the problems of the origination of hernia in children cannot be settled only by observations made at the operating table. Careful notes and records in the out-patient room must come first, and the results obtained in this way must be examined in the operating theatre. In this connection the writer has made over 700 observations. It was found that multiple herniæ were much more frequent in children than in adults. Single herniæ were found in 66 per cent. of the cases; multiple herniæ in 34 per cent. Like herniæ in other parts of the body the ventral one is not necessarily obvious unless the abdominal muscles are thrown into action. The most generally-applicable method is to place the child on its back on a table or its mother's lap; often it will begin to cry at once, when the ventral hernia will become obvious. If this is not so its abdominal muscles may be stimulated by a finger or the handle of a pen. Should this fail, the child's head must be supported with one hand, which at first raises it and then allows it to fall sharply backwards for two or three inches. Whilst this is being done the observer watches the abdomen for the momentary contraction of the muscles, a carinate projection appearing above the umbilicus if a median ventral hernia is present. If care is taken this form of hernia will very frequently be found present. The frequency of the median ventral hernia increases steadily from birth to attain its maximum in the second year of life, whence it falls steadily until adult life is reached, when it is rarely seen. It would appear, therefore, that this form of hernia is of an acquired nature which becomes spontaneously cured as growth takes place. Its significance in connection with the formation of inguinal hernia is enormous. Any hernia or set of herniæ in any situation are more frequent when accompanied by it than when alone. Finally, the writer suggests that by means of the recognition of the presence and significance of the median ventral hernia, its frequency and associations, it is possible to introduce a strong probability into the question which would seem to indicate that acquired herniæ are more common in children than those due to the presence of a congenital sac.

James Burnet (Edinburgh).

Ligature of the external carotid artery in an infant (*'Archiv. f. klin. Chir.,' vol.* LXXXI, 1906).—**Küster** reports a case in which ligature of the external carotid was performed at the earliest age which has hitherto been recorded. The operation was performed on a male infant, aged 6 weeks, on account of a cavernous angioma of the scalp, which was rapidly increasing in size. The tumour immediately became softer and much smaller, but it gradually filled again, and increased in hardness. Its base was then ligatured with the result that the swelling at once collapsed. The child stood the operation well, but later in the day clonic spasms in the muscles of the left side of the face and of the two left extremities appeared. These, however, were transient, and only lasted for half an hour. The ligatures were removed on the eighth day, and six days later the surface of the tumour had become gangrenous. The superficial part was removed by means of Paquelin's cautery, and the wound began to heal. Unfortunately the infant developed vomiting, diarrhœa, and wasting, with the result that the mother refused to remain in the hospital and the case was lost sight of. In consequence the ultimate result of the operation is unknown.

T. R. Whipham.

Congenital anterior dislocation of the hip (*'Amer. Journ. of Orthop. Surg.,' April,* 1907).—**Ryerson** reports a case of this rare dislocation. Only seven or eight cases are recorded in the literature. The child in question, who was 2½ years old, began to walk at fourteen months, and an impediment in the gait was noticed almost immediately. There was a slight limp on the left side, but no pain or discomfort was complained of in the hip. The thigh muscles were somewhat atrophied, and the limb showed ⅝ in. shortening. The great trochanter was the same distance above Nélaton's line, and all the motions of the joint were free except abduction, which was limited by about one third. The head of the femur could be plainly felt below the anterior superior spine of the ilium, and the great trochanter almost directly behind the head, when the foot was pointing straight forward. There was no lordosis. The X rays showed the head of the bone above the acetabulum, and the skiagraph resembled one of an ordinary backward dislocation. The case was not operated upon. T. R. WHIPHAM.

Correspondence.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

SIR,

Dr. J. Gordon Sharp's paper on "Thrush," in your July number, is open to many criticisms. There is, however, only one I will make, and that is as regards treatment. Firstly, there is no necessity at all for castor-oil or any other purgative. Secondly, sufficient stress is not laid on the proper cleansing of not only bottles but the mother's breast and the patient's mouth. I find, myself, that if the mother, after suckling or feeding, will carefully wash the breast or bottle with plain soap and water, then rinse and dry after each feed, much will have been done to prevent the complaint. Then the patient's mouth should be washed out with plain warm water to carefully remove all traces of milk, etc., and then carefully swabbed with boracic lotion also after each feed. This treatment I have found successful in the great majority of cases in two to four days. I have had many bad cases, but never one to last, under this treatment, more than one week.

I am, Sir, yours faithfully,

PHILIP LAVER.

3, *Church Street, W., Colchester.*

THE NEW ADVANCE AT THE INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

SIR,—As a slightly incorrect statement was published it would be as well to explain in some detail the important new move in the matter of school hygiene which was taken at the closing meeting of the recent International Congress.

The permanent International Committee, consisting of about sixty members selected from almost every country, has hitherto only met during congresses. Arising out of the question of whether it would not be a proper thing to establish a bureau, with a permanent staff, library and museum, and so on, in some central but neutral spot, such as a Swiss or Dutch town, it was decided, as explained by Drs. Mathieu, Burgerstein and Kerr, that it would probably lead to greater progress if such bureau was not localised, but if each country had its own centre for the diffusion of knowledge, and to act as a clearing house in the matter of school hygiene statistics, laws and regulations. Finally, to supervise in scientific matters and generally to do all that is possible at all times or places to forward the human interests which are bound up in the special lines of knowledge included in school hygiene, the International Committee has formed a small Council.

This Council has all the powers of an ordinary committee. It can form sub-committees of experts on special inquiries. The usual committee procedure is to sit round a table and discuss matters, but this Council will deal with the various subjects that arise, submitting the different topics by correspondence, collating the answers, and finally making pronouncements in urgent matters after a meeting of the Council.

It is obvious that for efficiency such Council should be small, and yet have in it elements to secure permanence, and at the same time possibilities of slow but constant change. This has been done by deciding that it shall consist of the president of the past Congress, the president of the Congress which has just been held, and the president of the next Congress. Nine other members are to be elected, of whom three are to be from the country where the Congress was last held, and three from the country where it will be held next, three being selected from other lands.

Certain matters, for instance, will almost at once come under the consideration of this Council. Such might be quoted as:

"The question of how medical inspection of schools can best be carried out with the maximum of efficiency and minimum of cost."

"The question of how far the laws of health can best be imparted to the coming generation, so that later they will know how to care for themselves and those dependent on them."

"The best systems or methods of physical training for both sexes at various ages."

"The feeding of children requiring proper nutrition, so that it shall be done without developing pauperism and with regard to those upon whom the cost falls."

These four matters are being dealt with practically in a great variety of ways, and this Council should be able to collect and analyse known facts to show which methods are best for any town or state.

It is obvious that information thus digested will have a very great value politically as well as educationally, and this Council may in time come to be officially regarded as quite analogous, in matters of school hygiene, to that other Congress of Peace now in session at the Hague.

Yours faithfully,

LAUDER BRUNTON, *President.*

JAMES KERR, } *Hon. General*
E. WHITE WALLIS, } *Secretaries.*

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THE

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OF

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Original Articles.

PNEUMONIA IN CHILDREN.

THE WIGHTMAN LECTURE FOR 1907.*

By Frederick Taylor, M.D., F.R.C.P.,

Consulting Physician to Guy's Hospital and to the Evelina Hospital for Sick Children; Physician to the Seamen's Hospital, Greenwich.

Mr. President and Gentlemen,—When some months ago I received the invitation to deliver the Wightman Lecture before The Society for the Study of Disease in Children, I felt deeply the honour conferred upon me, and accepted the duty with a light heart, thinking that I should find no insuperable difficulty in selecting a subject which would prove interesting to my audience, and would, at least, do credit to the Society under whose auspices it was being discussed. But I then hardly realised the task which was before me, and looking back upon the circumstances in connection with which this Lectureship was generously founded by Mr. Charles Wightman, I feel all the more acutely that I may be very far from adequately fulfilling the requirements, or even approaching the ideal the founder had in his mind. You, Sir, as the first Wightman lecturer, informed your audience that this Lectureship was founded as a permanent memorial to a dear son carried off by disease at the early age of seven; secondly, in the hope or trust "that future scientific observations may lower the mortality of other diseases to which children are liable, and that this lecture may be the means of establishing or of diffusing such knowledge."

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* Delivered before The Society for the Study of Disease in Children, May, 1907.

When I think over the subject which I have chosen, I may regard it as one which comes well within the scope of the founder's intentions; but when I review the results of my treatment of it, and try to estimate how far it realises the conceptions of the founder, I feel that I must beg him, on the one hand, and you, the Society to whom he has confided this trust, on the other, to look very leniently upon my efforts, since, in their results, they lag very far behind what I had hoped and believed they might be.

The subject of "Pneumonia in Children," is one to which no one can be indifferent; it is a disease to which children of all ages are liable, of which hundreds of children die annually, and in the progress of which, one must confess, that the physician has not too great a share, and would willingly have a greater. But whether it has any importance at the present time, or can usefully be made the subject of the present address, must surely depend upon the value of any new facts which can be brought forward in connection with its ætiology, diagnosis or treatment; or any new views or hypotheses, sufficiently well based, which may lead up to improvements in either its cure or prevention.

There is one curious fact which might long ago have prevented me from selecting this subject, and that is, that in the six published volumes of the 'Reports' of this Society there is scarcely a paper alluding to the subject of pneumonia, certainly no article which expressly deals primarily with any phase of the disease. I think this fact is probably to be explained by the constitution and usages of the Society, in which the actual exhibition and direct study and observation of the cases forms an essential feature of the Society's work; and hence more attention is likely to be paid to cases which can be transferred from the hospital to the meeting-room than to those which, like pneumonia, are acute in their course, often dangerous to the sufferers, and hence not suitable for examination and discussion before the Society.

And I am sadly afraid that even now, when through the medium of this lecture, if it is admitted to your 'Reports,' I shall have introduced the subject, it will consist of very little original matter of my own, but mainly of a review or consideration of the work which has been brought before other societies, or published in other ways within recent years.

One of the chief questions which has been debated in modern times has been the relative frequency of croupous and broncho-pneumonia, or of lobar and lobular pneumonia in children; and comparatively recently this has been the subject of more or less elaborate papers.

As one can readily understand, the separation of lobar from lobular pneumonia has been a development of comparatively modern time, assisted no doubt by improvements in auscultation and the greater elaboration of histology. In the older writers there is rarely any description of lobular pneumonia or broncho-pneumonia apart from inflammation of the lung in general.

Dr. Charles West, in his classical lectures on the "Diseases of Children," first published in the 'Medical Gazette' for 1847, states in so many words that the name "lobular pneumonia" was first given to a condition which was not inflammatory at all, that condition which is so frequently associated with broncho-pneumonia, namely, lobular collapse; and that this fallacy and confusion prevailed until it occurred to inflate the affected portion of the lung, when it was demonstrable that the solid portions of lung were deprived of air by simple collapse, and not by repletion with inflammatory products.

He admits, however, almost grudgingly it would seem, that such a thing as lobular pneumonia does exist. For instance, to quote from the lectures in their fifth edition, published 1865, he says: "As a result of bronchitis it sometimes happens that the lung is found in a condition which may justly be called lobular pneumonia." He also states that a "pneumonia, at first lobular, may at length coalesce." Later on he refers to broncho-pneumonia as a case in which bronchitis has extended to the lung—a case of mixed character.

But though not explicitly describing two forms as clinically distinct he sufficiently recognises that they may be named as separate species when he discusses their relative frequency. For instance, when proceeding to describe lobar pneumonia he says that the cases previously alluded to as constituting true lobular pneumonia are "somewhat less rare than in the adult, still of very infrequent occurrence." That such cases were ever thought to be frequent he attributes to a confusion with lobular collapse; and this exaggerated frequency of lobular pneumonia led to an underrating of the importance of lobar pneumonia, which, he says, is often in early life a primary as well as a secondary affection.

Here then, so long ago as fifty or even sixty years, we see that the question of the relative frequency of the two forms of pneumonia, which even in the last year or two has been thought worthy of further investigation was answered in different senses; but the subject then appears to have been partly complicated by the failure to eliminate entirely, as it appears easy to do now, the condition of lobular collapse.

It is this question of the relative frequency of lobar pneumonia and lobular pneumonia which has chiefly exercised recent observers, who have quite properly made the attempt to represent numerically the proportionate share which these two forms have in the inflammatory lesions of the lung in young people. And it is quite obvious, in spite of the opinions expressed years ago, that the writers have felt the necessity of driving home the fact of the frequency of croupous pneumonia, as if in antagonism to some expression of opinion or general feeling that this form of disease rarely occurred in young children or infants. If such a general feeling has existed it has no doubt arisen as a result of one or two defects in the human organisation (mental and physical)—namely, the difficulty which so many of us have of carrying in the mind more than the simplest contrasts, or anything but unqualified statements. And so, having recognised that broncho-pneumonia is more common in infancy and old age and croupous pneumonia more common in the intervening period, we are easily led to think, or talk as if we thought, that neither of these diseases ever occurred at periods other than those in which it is simply "more frequent."

Such a process, of course, could not be operative in the case of those who make accurate notes of all the cases which come under their care, or carefully criticise them with a view to scientific differentiation. Unfortunately there are many for whom such an ideal is incapable of complete realisation. But quite apart from this there are two reasons for difficulties or discrepancies in opinion with regard to such a point, and these are:

(1) The high probability that results are different in different places or in different groups of cases.

(2) The fact that they are only different forms of the same disease, not different diseases, and that therefore, however desirable it may be to conceive of them as essentially distinct and easily discriminable, the facts may be that they are more easily confounded together than some would like to believe.

The statements made are of two kinds:

(1) The incidence of croupous pneumonia in infancy as contrasted with pneumonia in older children and adults.

(2) The incidence of pneumonia in infancy as contrasted with that of broncho-pneumonia at the same period. Amongst English writers who have dealt with this subject in the last few years I may

mention Dr. Clive Rivière. He states that the greatest incidence is in the second year of life, and out of 155 cases finds 20 occurring in the first year, 46 in the second, 38 in the third, 27 in the fourth, 18 in the fifth, 5 in the ninth, and 1 in the twelfth.

Dr. Vere Pearson makes the statement that croupous pneumonia is more common in infancy than in any succeeding age; but apparently from what follows this should be qualified, and stand as more common than in any succeeding age of childhood. But he quotes the opinions of others which are not quite in accordance with this. Curiously, one of these is Dr. Clive Rivière, who said that it is certainly uncommon in the first two years of life. But this was in 1902, in a paper antecedent to that above quoted. The others are: Holt, who found it more common in the fifth year; Morrill, in Keating's work, the fourth to the seventh years; Henoch, in the sixth to the twelfth; and F. H. Hawkins in the twentieth to the thirtieth. This last period is, of course, outside the period comprised in pediatrics.

Dr. Bertram Abrahams is another who is deeply impressed with the ignorance of the profession generally as to the frequency of croupous pneumonia in children, and he says in the BRITISH JOURNAL OF CHILDREN'S DISEASES, April, 1904: "Among the diseases of which the frequent occurrence in children is insufficiently recognised is lobar pneumonia, which is quite a common affection from the age of two upwards." That is to say, though he insists on its frequency in children, and feels that he is preaching a gospel which wants to be widely diffused, his facts have not been quite of the same order as those of Dr. Rivière; he does not predicate anything of a lobar pneumonia in the first two years of life, and can only be construed to mean that it is much less frequent than in the third, fourth, fifth, and succeeding years.

Passing from London to Manchester, we find that Dr. Ashby's returns, as given in the latest edition of 'Diseases of Children,' by Dr. Ashby and Mr. Wright, are more in accordance with those of the last writer and less in agreement with those I had previously mentioned. Out of 708 cases of lobar pneumonia occurring in fifteen years, 29 occurred in the first two years, which we may call for purposes of comparison 14·5 for each year's period; 213 in the next three years of life, or 71 for each annual period; 338 in the next five years, or 67 for each annual period, and 128 in the years ten to fourteen, or 32 for each annual period.

Crossing the Atlantic to Boston, United States of America, we find the results of some observations made in that town at the Infants'

Hospital, published by Dr. John Lovett Morse in the 'Archives of Pediatrics,' 1904, p. 641. The profession in America seems to have been as wrongheaded as that in England with regard to this vexed question of the infantile incidence of croupous pneumonia. He begins: "This study was undertaken because of my feeling that many of the commonly-accepted views, not only as to the frequency of lobar pneumonia in infancy, but also as to its onset, course, and prognosis, were erroneous, and not justified by the facts."

In nine years, out of 1900 cases admitted to the Infants' Hospital (and this appears to be a separate institution from the Children's Hospital), there were 118 cases of lobar pneumonia, which were almost equally divided between the first and second years of life, namely, 58 in the first year, and 60 in the second.

No comparison is here possible either with pneumonia in older years in Boston, or with the relation of pneumonia to other diseases in English hospital experience; but he notes that only sixty cases of broncho-pneumonia were admitted in the same period, which, even if, as was the fact, cases secondary to measles and whooping-cough were excluded, is, perhaps, explained by the further statement that only the more severe cases are brought for admission.

I have tried to get some evidence on this point from sources immediately available to me, namely, from the clinical and post-mortem records of Guy's Hospital. I regret to say that I have not been able to push my inquiries as far as I should have liked. To begin with, I have taken the clinical records of our clinical ward for one year. This is a ward consisting of two divisions, male and female; the male division has sixteen beds, the female sixteen beds and four children's cots. The ward is intended for cases selected either on account of their gravity or their educational value, or other interest. As a fact, though there are only four cots a large number of children are constant inhabitants. In the year 1906 sixty-two children of twelve years of age and under were treated for inflammation of the lungs. Of these thirty-five were called broncho-pneumonia and twenty-eight lobar pneumonia.

Of the twenty-eight lobar pneumonias only one was so young as two years old, and four were three years old; the age of five years was represented by seven cases, of six years by three cases, and seven years by five cases. The point of importance is that no case of croupous or lobar pneumonia was recognised to occur in the first two years of life. The average age of the twenty-eight cases was 6·07.

Of the thirty-five cases of broncho-pneumonia the age of one case is not stated. Of the rest sixteen or nearly half occurred in the first two years of life, eight in the third year, five in the fourth, and the other few are almost equally divided between succeeding years, The average age of these cases was 2¼ (2·25).

Of these cases twenty-two were fatal, and a post-mortem is recorded in thirteen. I have looked carefully through the notes of the remaining cases, and in not more than two of the cases does it seem reasonable to doubt the diagnosis of broncho-pneumonia, or to suppose that a croupous pneumonia must have been there instead.

Evidence from post-mortem records alone, that is, not collated with the clinical records of the wards for the same period, cannot give all the information one wants in reference to the incidence of the particular diseases or forms of disease. If a disease is never fatal and always recovers it will be rarely met with in the post-mortem room; if a disease is often fatal it will, of course, be frequently seen below. Still, it is not contended that lobar pneumonia is never fatal, only that its prognosis is much better than that of broncho-pneumonia.

The post-mortem records of Guy's Hospital for 1905 concern 625 cases; of these 109 were cases of broncho-pneumonia and 50 cases of lobar pneumonia. In addition were fourteen cases of septic pneumonia. There is very little overlapping: two cases had both broncho-pneumonia and lobar pneumonia. And further, one of the septic pneumonias had been included under the lobar pneumonias, and one among the broncho-pneumonias.

But to concern ourselves with the children I find that there were ninety-four cases of broncho-pneumonia under twelve years of age, with the following distribution:

Under one year of age .	28 or 29·8	per cent.
In the second year . .	34 or 36·1	,,
In the third year . .	12 or 12·7	,,
In the fourth year . .	11 or 11·7	,,

In the fifth, seventh, and tenth years two each, and in the twelfth year one. This supports the statement as to the great infrequency of broncho-pneumonia after the age of three. Amongst the fifty lobar pneumonias only seven were children. One was in the first year, two in the second, one in the third, the others in the sixth, ninth, and twelfth. The point of interest in this connection is that one of these children, aged 2¼ years, had lobar pneumonia or broncho-pneumonia in the same lung; and another, aged 1 year, had lobar pneumonia of the right lung and broncho-pneumonia in the left.

These records suggest that lobar pneumonia is not common in infants; and they show that, at any rate in this institution, the lobar pneumonia of infants, if frequent, was even much less fatal than it was in the hospitals in which some others have observed the cases.

Before attempting to discuss the reasons for discrepancies in the results given above, I will say a few words (1) on the relative incidence of broncho-pneumonia and lobar pneumonia in young children; (2) on their relative mortality. This point has been chiefly discussed in relation to children under two years of age. Dr. Rivière gives the proportion of lobar pneumonia to broncho-pneumonia as 1 to 3, *i. e.* 65 cases of the former to 195 of the latter. Dr. Vere Pearson quotes Holt to the same effect—that is, croupous pneumonia 25 per cent., and broncho-pneumonia, 75 per cent. His own figures from the East London Hospital for Children at Shadwell were 121 croupous pneumonia to 172 broncho-pneumonia, or 41·3 per cent. to 58·7 per cent.

The Guy's Hospital records differ largely from entire absence of lobar pneumonia from the children of this tender age at a time when sixteen cases of broncho-pneumonia were dealt with. These figures are small and the discrepancy may possibly be explained, at least partly, when we consider that only five cases of lobar pneumonia are wanted to bring the proportion into line with the observations of others.

Dr. Morse's statistics are, however, as extreme in the other direction, and in larger figures, since the cases seem to have been collected from the records of nine years. While 118 cases of lobar pneumonia were being observed only 60 cases of broncho-pneumonia were treated under two years of age, thus reversing the relations and making the lobar pneumonia 66·3 per cent., broncho-pneumonia 33·7 per cent. But broncho-pneumonia in connection with whooping cough and measles was not included, so that the total cases from this cause would naturally be much less than in some other returns. For instance, in the Guy's post-mortem records whooping cough figures rather largely.

I come now to the mortality of croupous pneumonia in children, and here discrepancies in observations are, unfortunately, also present. Dr. Clive Rivière found a mortality of 25 per cent. for infants in the first year of life, and 15·4 per cent. for those in the first two years of life, as against 2·3 per cent. for those over this age.

Ashby and Wright give 27 per cent. for the mortality in children under two of age, which is, of course, higher still; while their percentage mortality was 10 per cent. between two and five and 2·3 per cent. between five and ten. Dr. Morse's result is very similar, namely, a mortality of 26·31 per cent. for the first two years of life, or for the two years taken separately, 36 per cent. in the first year, 19 per cent. in the second.

"These figures," he says, "give a very different picture of the severity of pneumonia in early life from that given in most text-books. They show that although pneumonia may be a comparatively mild disease in childhood, it is a severe and very fatal disease in infancy, the fatality varying inversely with the age of the infant."

Some of this text-book mortality is quoted by Gillet (in 'Gazette des Hôpitaux,' June the 24th, 1903, No. 74). According to him Rilliet and Barthez had 212 cases in children with two deaths; Gassicort, 70 cases with one death; Comby, 150 cases with one death; Haushalter, 100 cases with one death; Hellestrom, 30 cases and Barber, 17 cases with no deaths; a total of 579 cases with five deaths, or less than 1 per cent. In what proportion of these cases the patients were under two years of age is not here stated. Schlesinger stated it to be his impression that 5 per cent. of children's lobar pneumonia cases were fatal, and American authors in general, previous to this date, 1903, 4 per cent.

At Guy's Hospital, in the year 1905, the post-mortem records show only seven cases of lobar pneumonia under 12 years of age. Of those three were six, three two years of age: one of these three was the case with lobar pneumonia of one lung—the right, and broncho-pneumonia of the other lung.

Returning again to discrepancies in the various figures and the explanations, I think these are some of the points to be considered:

Even though large numbers of cases may be collected, they are generally from a limited source. The returns of a single hospital in one locality of a large town do not represent all the facts with regard to the given disease, or with regard to the two diseases compared. For instance, if, as is commonly stated, lobar pneumonia has a better prognosis than broncho-pneumonia, and is, as we know, a disease of short duration, that would explain the less frequency of the former in hospital, since many infants might recover from it before the parents made up their minds to hand over their children to the hospital instead of nursing them at home.

Contrast the figures given by Dr. Rivière and Dr. Morse, as representing the proportion between lobar pneumonia and broncho-pneumonia—one to three by the former, two to one by the latter. Will the exclusion of infective cases account for all that difference? May not epidemic variations, or variations in the epidemic prevalence of one or the other at different times, have much to do with this?

Then come differences of results with regard to lobar pneumonia at different ages. It is stated that this is more common at the ages under two than in any other annual period. But what is known of the actual population of any community, or hospital district, at the different annual periods? Are infants under one year more numerous than children in the eighth year? Assuming a uniform rate of childbirth, year by year, the infants would be in excess, not of course of all the older children, but of those belonging to any one annual period, because all older children have once been infants, but not all infants become older children. In a small community the birth rate is not, of course, uniform, but the larger the community the more would it be likely that uniformity should be reached.* Then on the same subject differences might be expected in the necessity felt for the transference of a case to the hospital.

Certainly it is difficult to see why lobar pneumonia should be common in the first two years of life, should then become relatively infrequent, and then again become as common as we think it is in young and middle-aged adults. But here again I am not aware that a careful comparison has been made between the pneumonia cases and the actual population at different ages.

The most natural way to explain discrepancies in statistical results of a disease or diseases which frequently recover is to suppose that one or other observer has made an error in diagnosis. I have already said that Dr. Charles West thought that an exaggerated importance, attached to lobular pneumonia, led to an under-rating of the frequency of lobar pneumonia. But, of course, a disease should not be determined to be before us from the probability of its occurrence, but from the presence of unequivocal or pathognomonic signs, could we but discover them. And herein undoubtedly lies one of the difficulties of the situation.

Dr. Rivière admits this: he says, "the diagnosis between lobar pneumonia and broncho-pneumonia is often impossible, and statistics based on diagnosis are untrustworthy." He places most faith in the occurrence of crisis as a distinguishing feature of lobar pneumonia, and with absence of this he thinks the diagnosis between true lobar pneumonia and broncho-pneumonia with a lobar distribution must fail.

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* That this is generally true is shown by the census returns; but it is doubtful if the difference in the populations for each year will account for all the difference in the incidence of the diseases under consideration.

For the purpose, not of determining the nature of an individual case, but of estimating the probable proportion of lobar pneumonia and broncho-pneumonia in a series of cases, he proposes to check a certain number of cases by post-mortem examination, ascertain the proportion in which a mistake has been made, and apply these facts to the other cases which recover, that is, to assume that the same proportion of mistakes will have occurred in the cases which recover as in those that have died.

This method probably gives as sure results as can be obtained for statistical purposes, until, if ever, our diagnostic methods can be improved. So far as a crisis is concerned, one would not be inclined to attach too much importance to its absence, knowing as we do that a large proportion of cases of adult croupous pneumonia terminate by lysis. Writers also speak of a *pseudo*-crisis, meaning thereby a fall to normal or nearly normal the day before the final fall. Certainly in some cases of lobar pneumonia the temperature also falls very low on the antepenultimate day of pyrexia, as well as the penultimate, constituting what some would no doubt like to call a pseudo-pseudo-crisis. And if we add one or two more such falls we may get so many pseudos that we may easily, I am sure, fall into a *pseudo*-diagnosis, and so the temperature may fail us altogether. No doubt this sign, like any other, is not unequivocal.

But Dr. Morse appears to have no difficulty in the diagnosis without the assistance of this pyrexial feature, since he observes that there were 64 cases with crisis to 29 with lysis among his lobar pneumonias in the first two years of life; and of these the percentage of crises in the first year of life was 54, in the second year 77·5 per cent. Without a very much larger series of cases it would be unwise to infer from these that the two periods of life always present such a difference. He regards his observations as being "consistent with the general opinion that crisis is less common in the first year than in later life."

Jürgensen is quoted by Dr. J. D. Rolleston (BRITISH JOURNAL OF CHILDREN'S DISEASES, 1906, vol. iii, p. 538) as saying that the whole question is yearly becoming more complicated, and suggesting that the diagnosis of lobar pneumonia can only be settled by the absence of a wide-spread capillary bronchitis.

This would surely be again an attempt to found a diagnosis upon the presence or absence of a sign which is not exclusively associated with one form of the disease, in other words, is not distinctive. It is true that generally capillary bronchitis is rarely an accompaniment of croupous pneumonia, except in the very last stage of some fatal cases; but it surely cannot be affirmed that a wide-spread capillary bronchitis—or, clinically, that wide-spread râles—are present in every case of broncho-pneumonia.

In the 94 cases which were examined post mortem at Guy's Hospital in the year 1905, the brief clinical notes accompanying the reports do not, in many cases, enable one to say exactly what the clinical features were, but in 25 at least where the statements are clear on that point there were no general râles or rhonchi, as against 21 where rhonchi or general râles were certainly present.

I should myself be very unwilling to accept the absence of râles generally as a proof of the croupous nature of the pneumonia. Having a bearing quite in the opposite direction is the belief expressed by Dr. Gossage at the meeting of the British Medical Association in 1900 ('Brit. Med. Journ.,' vol. ii, 1900, p. 564), that lobar pneumonia may cause an acute bronchitis as a result of its infective nature, and hence that not uncommonly broncho-pneumonia may follow lobar pneumonia. But clearly the cases in which the bronchitis followed the lobar pneumonia, but did not lead up to the lobular pneumonia, would militate against Jürgensen's suggestion to take a bronchitis as proof of the lobular character of the alveolar lesion. Undoubtedly the two conditions may co-exist, and broncho-pneumonia is even spoken of as a common complication of pneumonia, and as persisting so as to cause a fatal result when the original pneumonia has cleared up. Obviously our statistical results must be seriously complicated by cases of this kind, and so far, in statements of this order, I have not seen a column reserved for the cases in which the two lesions have both occurred. It must be a matter of chance whether they go under one or the other head: if fatal early they may be seen to be mixed; if fatal later they will probably be regarded as broncho-pneumonia; if seen early and recovering, lobar pneumonia will be recognised; if seen first later and recovering, perhaps broncho-pneumonia.

Does the appearance of lobar pneumonia in children differ from that in adults? No doubt it does, but not in a way to make it more clearly resemble broncho-pneumonia. The point noticed by all observers is that it is less coarsely granular. Gillet ('Gazette des Hôpitaux,' 1903, 2074) says it is less well defined than in the adult; less well limited; it has not the same consistence nor the same finely granular aspect. The parenchyma is always moist, the surface not opaque, but translucent from richness in juice.

The condition of broncho-pneumonia in a previously hepatised lung is thus described by Dr. Rivière: "The consolidation is masonic and the cut surface is very moist, not granular, and is marbled with grey broncho-pneumonic patches on a ground of intensely œdematous lung. Of course it is admitted that a broncho-pneumonia may occupy or involve a lobe or part of a lobe, so as to give, clinically, a very close resemblance to a lobar pneumonia, but it is clear that the lobular distribution can be at once recognised post mortem. So that the conclusion seems to be that there is no real difficulty in distinguishing the conditions post mortem so long as one recognises that they may co-exist."

Great as is the service rendered to us by bacteriology in this question of the diagnosis between lobular and lobar pneumonia in children, it seems to give us little help. For, first, children rarely expectorate; and though it has been shown that some material for observation can be obtained by placing a swab at the back of the child's throat at the moment that it coughs, still even then the fact that the pneumococcus is present in both forms of the disease makes the inferences to be derived from this method of research somewhat doubtful, and as a fact I find little in recent publications to show that much help can be obtained in this way.

The conclusion then seems to me to be that the results of observation in one time or place cannot be accepted for any other time or place; that there are probably considerable differences in the incidence of the two forms of pneumonia which are not to be entirely accounted for the personal equation of the observers, or by prejudicial opinions as to the frequency of one or other form; that broncho-pneumonia is very much less frequent after three years of age; that lobar pneumonia occurs in infants probably much more than was the current belief a few years ago; possibly its incidence may be more liable to variation from epidemic or other considerations than that of broncho-pneumonia.

A few words may be said as to the reasons of the differences which occur, and as to the value of the facts so far as we know them in our relation to the children as our patients.

It has naturally been suggested that there may be anatomical differences in the lung which will account for the greater frequency of one or other disease at the infantile age. But where should the difference be expected? Modern returns, as I have shown, are mostly in favour of a great frequency of lobar pnemonia in infants. The infantile lung can accommodate almost equally well, or resists with almost equal impotence, either form of disease alone, or the two simultaneously or successfully. It is the lung of the child at five, seven, or ten, which has so much resisting power to broncho-pneumonia. It is clearly the exemption of these greater ages from the latter disease which has to be explained, and not the relation, either positive or negative, of lobar pneumonia to any one period of life. The late Dr. Washbourn, in the Croonian Lecture for 1902 ('Lancet,' vol. iii, 1902, p. 1531), makes the following statement: "The chief differences between the lung of the child and that of the adult are that in the child the lobulated structure of the lung is more distinct, the connective tissue being more pronounced; and the alveoli of the newly-born child are from ·03 to ·06 millimetre in diameter (Köllicker), while those of the adult are from ·05 to ·1 millimetre. As growth continues fresh alveoli do not appear to be added, the increase proceeding from an expansion of all the parts."

It seems to me that these differences scarcely supply an adequate reason for the variations in the incidence of lobar and lobular pneumonia, especially when we realise that there can be no material difference in size between the middle-aged adult lung and the senile lung, though differences in pneumonia incidence are well known as between them. There may be differences in vascularity which could account for it; but it would not be surprising if for the present we failed to explain the age-incidence in pneumonia, seeing that analogous etiological peculiarities exist in connection with numerous other infective and metabolic disorders.

When we turn to the question of the advantages of a correct diagnosis we must admit that diagnosis may have a practical application on a purely scientific value with the corollary that what is at present of merely scientific value may later have a valuable practical use. The practical applications of diagnosis are mainly in the directions of prognosis, treatment and prevention. And in the reference to the question before us it has chiefly been urged that it is everyone's duty correctly to differentiate between the varieties of pneumonia, because the prognosis is different—or even *so* different. But I would not attach too much importance to this; for at times when, or in places where, the mortality of lobar pneumonia in infants is 27 per cent., very little reliance could be placed in an individual case on the statistical probability that it would recover. Similarly, when or where broncho-pneumonia is exceedingly rare above three years of age, in that period of life there will with equal rarity be the need to exercise the function of prognosis. But really, as we all know, prognosis has always to be considered with regard to the individual case. Extremely bad cases of broncho-pneumonia are sometimes among those that recover, and a case of lobar pneumonia commencing favourably may ultimately be fatal. No doubt in the early stage the probabilities may be taken into consideration in pneumonia, as in other diseases, but ultimately, whatever the variety, the condition of the patient must be the guide.

It is, of course well known that the number of the leucocytes in the blood have been regarded and used as a basis of prognosis in pneumonia; but not perhaps with the greatest confidence, since it is admitted that the leucocytosis is the result of two factors, namely, the intensity of the infection and the defensive power of the individual. Thus a constantly high leucocytosis is looked upon as a favourable sign as indicating a strong reaction on the part of the individual, and a low leucocytosis as unfavourable for a like reason. Yet in particular cases a mild infection may call forth only a slight leucocytosis, and a virulent infection produce a high leucocytosis, in which case the number of the leucocytes might not be at all in proportion to chances of recovery.

Some relatively recent observations on the leucocytosis of broncho-pneumonia and lobar pneumonia are published by Heiman (in the 'Archives of Pediatrics, October, 1905). In nineteen cases of broncho-pneumonia aged from 10 months to 5½ years the leucocytes numbered from 12,000 to 73,000. Twelve cases recovered in them; the count was high in the first days of the disease and fell towards the end except in two cases complicated, one by mastoiditis, the other by tonsillitis.

Seven cases were fatal; in them also the count was always high at the beginning of the illness; in four of them it fell considerably a little before the fatal issue, but in the other three the high count was maintained throughout.

In 24 cases of lobar pneumonia, aged from 2½ years to 9 years, the leucocyte count varied from 20,200 to 55,800, except in two cases, one of which was preceded by typhoid fever, and the other was accompanied by pleurisy, and in those there was no leucocytosis. There were only two fatal cases, and in these there was very marked leucocytosis during the height of the pneumonia, and a considerable diminution immediately before death.

The author remarks that the amount of leucocytosis was independent both of the extent of the lesions and of the elevation of the temperature, but that as a rule it diminishes as the signs clear up, and if not, some complication or a fatal result is to be feared.

In lobar pneumonia, on the other hand, the leucocytosis is directly in proportion to the extent of the lesion; it increases progressively and reaches its height a little before the crisis; but a fall before the crisis is not sufficiently constant to attach much importance to it.

Turning now to another side of the subject of pneumonia in children, it appears that attempts have been made to ascertain the intimate pathology of some of its complications by taking advantage of that recent addition to our means of research and treatment, namely, lumbar puncture. Drs. Nobécourt and Voisin have published in the 'Revue Mensuelles des Maladies de l'Enfance' some observations, which are interesting, even though the ultimate outcome of them must, I think, be small. The paper is entitled "La pinchin Lombaire dans les Infections Broncho-pulmonaires des Enfants," and the object was to ascertain the condition of the brain and spinal cord in cases of pneumonia with cerebral or nervous symptoms. Hitherto we have been content to believe that the temporary, recoverable cerebral disturbances, which are common not only to pneumonia but to typhus, typhoid, scarlatina, indeed, all general infections affecting the body with any degree of severity or virulence, must be due to the circulation of toxines. When all know the frequency with which a general pneumococcic infection takes place, and that definite local inflammations may occur as a result of infection by the pneumococcus in many organs, it would not surprise us if it were found that the cerebral symptoms were sometimes due to its direct invasion. What would want explanation would be the comparatively short duration of the symptoms in most instances.

Messrs. Nobécourt and Voisin performed lumbar puncture in thirty-one cases of pneumonia. In seven cases there were no cerebral symptoms; they were cases of generalised bronchitis with or without broncho-pneumonia. The other twenty-four cases were cases of broncho-pulmonary inflammation accompanied by meningeal symptoms. With the exception of two cases of bronchitis all are described as broncho-pneumonia. But the cerebral symptoms are of very varied kind, and include stiffness of the neck in sixteen cases, stiffness of the limbs in ten, convulsions in ten, strabismus in three cases, conjugate deviation in three cases, and in one or two cases only the following: unequal pupils, otitis, facial paralysis, ptosis, paralysis of the four limbs, twitchings, trembling, champing, and grinding of the teeth.

In the first group of cases the liquid was mostly scanty, from 5 to 10 centimetres, clear, limpid, containing in two thirds of the cases a trace of albumin. Only twice were leucocytes present, that is, in one a few lymphocytes, in the other five lymphocytes and four polymorphonuclear cells. In three cases examined bacteriologically the liquid was sterile.

In the second series of cases, in which cerebral symptoms occurred, the liquid was more abundant, from 10 to 20 or even 30 to 35 centimetres, mostly clear and limpid. In only eight out of twenty examined was albumin found. In one half of the cases no leucocytes were seen; in the other half lymphocytes and four polymorphonuclears were seen, sometimes one, sometimes the other, sometimes both in about equal numbers.

Bacteriologically, amongst nineteen cases examined in this way all were sterile except two, and these yielded pneumococci.

As will be seen, these results are not very helpful; the main fact seemed to be that the cerebro-spinal fluid was more abundant in the cases with meningeal symptoms; the cytological observations in the smaller group of cases are not numerous enough to give a proportion comparable with the other group. Even in the cerebral group the positive result of the bacteriological examination only occurred in one sixth of the cases; but it is at least suggestive that in those two cases the liquid was turbid, and contained polymorphonuclear cells, while in each case there was a purulent or sero-purulent œdema of the brain. Moreover, in one case there was a purulent pleurisy, in the other bilateral purulent pleurisy and purulent pericarditis.

However, more extended researches would have to be carried out to make it clear that any pronounced advantage is to be derived from this method of observation, whether as regards diagnosis or prognosis, and researches not only in cases of pneumonia, but also in other diseases. A recent writer (Cantineau, 'Jour. Med. de Brux.,' March the 14th, 1907), says that lymphocytosis of the cerebro-spinal fluid is absolutely diagnostic of syphilis; that in tuberculous meningitis the cerebro-spinal fluid contains many lymphocytes and a few polymorphonuclears, while the leucocytosis is almost exclusively polymorphonuclear in pneumococcal, meningococcal, and streptococcal meningitis.

However great the interest in the pathology, complications and prognosis of pneumonia, it is surely upon its treatment that one's thoughts ought to be centred; and yet one has to confess the means of directly influencing the course and progress of pneumonia are by no means always ready to hand. Even if some of us are confident of the powers of the drugs we employ to affect the processes in the lungs, or of our own cleverness and acumen at divining the right to intervene with fresh combinations or new methods, it is obvious even from reading many of the recent papers on the incidence and mortality of different forms of the disease that no great importance is attached to personal equation in the physicians treating the cases.

It is interesting to look back and see the changes which have taken place in regard to the therapeutics of children's pneumonia. One can go no further into this subject than the period when children's diseases were first definitely set apart for separate consideration, and in Dr. West's treatise we see the antiphlogistic methods under discussion. In his work, already referred to (p. 341), he quotes Barthey as to the rareness with which active treatment, by which he means abstraction of blood, is "necessary in children." This rather suggests that the cases he is talking of were cases of lobar pneumonia, with the more favourable outcome and less mortality which it is known they possess as compared with broncho-pneumonia. He then goes on to say that he rarely meets with pneumonia in such an early stage as he used to when he was a junior. Dr. West was at this time about forty-nine years of age, and must have had then a large practice in children's diseases, and had arrived at a time of life and position in the profession which, no doubt, led him, as a consultant, to see acute cases rather in their later than in their earlier stages. He continues, "he never can forget the good results which he saw in the treatment of pneumonia in healthy children, how it reduced the heat of skin, abated the hurry of breathing, and relieved distress"—benefits which he states were admitted even by writers of that day. And he says: "I should be disposed to add that, in some instances, it cut short the disease." But after all it was only during the first twenty-four or thirty hours that a good result could be expected, and he deprecated it at the stage of fine crepitation or bronchial breathing. That day is surely passed, and few of us can have seen a child bled for pneumonia, even of the acutest lobar variety.

Then came antimony and murcurials, the former of which, at any rate, was in vogue in my earlier professional years.

In the present day the tendency no doubt is to deal somewhat differently with the two forms, lobar and broncho-pneumonia: to treat the former as a local complaint for which drugs of the expectorant class are likely to be useful, and to regard the former as an infective disease running its own course and little likely to be influenced by drugs. But there are still those who recommend the well-known cardiac depressants such as aconite, antimony, and veratrum viride at the commencement of both broncho-pneumonia and lobar pneumonia, a treatment which can be only leased on a view similar to that which justifies venesection. But if lobar pneumonia has anything like the small mortality percentage which is given by some writers, as for instance, the less than 1 per cent. quoted already, surely it is mere waste of effort to give any drug at all unless the case should be one either of exceptional severity from the first, or should after a longer course reach a condition of great danger. Even then it occurs to me that the analogy of treatment in other acute general infectious diseases would not lead us to drugs which only act as cardiac depressants. Expectorants can be of only secondary value in a real lobar pneumonia, where it is obvious that the fibrinous deposit is absorbed and not spat out, unless in such cases as are accompanied by marked bronchitic phenomena. My own practice in broncho-pneumonia for many years, like that of many other English practitioners, has been to give what one called expectorants, and especially, indeed almost exclusively, ipecacuanha and carbonate of ammonium. How far either of these promotes the removal of secretion from the bronchial tubes by process of expectoration it may be difficult to say. The object should be to promote absorption of products in the alveoli, and expectoration, possibly absorption, certainly the diminution of the excretion which forms in the bronchial tubes. Ipecacuanha I regard as a drug which modifies secretions from the bronchial mucous membrane, and I believe it does more good in that way than by driving the secretion already formed out through the larynx. This process, true expectoration, is obviously of secondary importance, as will be seen if we compare the bronchial tubes with the urethra. In inflammation of the latter, the familiar gonorrhœa, the secretion escapes freely enough, inconveniently so, but the cure does not follow thereby, until the conditions of the mucous membrane favourable to secretion or pus formation have been modified by internal remedies or local antisepsis.

Similarly with the secretion of bronchitis or the bronchial element in broncho-pneumonia ammonium carbonate no doubt acts partly by stimulation of the circulation, possibly by increasing the power of expulsion of the bronchial tubes; but the large number of cases in which expulsion of mucus or phlegm is a very small feature must owe their recovery to some other remedy or to some other factor in this.

There can be, I think, no doubt that the study of bacteriology must gradually lead us to look with a good deal of scepticism at the influence of drugs in these specific processes except in a few instances where the evidence is overwhelmingly strong of a direct effect upon the disease. I refer of course to such illustrations as quinine in malaria, mercury and iodides in syphilis and a few others.

But on other lines than the cardio-depressant and expectorant theories have drugs been attempted even recently.

I forbear, nor have I time, to enter into the general discussion on the treatment of pneumonia in adults as well as children, which was initiated by Sir Lauder Brunton's recommendation of chloride of calcium. This is admittedly only a method of assisting the heart in its functions, and, therefore, it should be, if it has any value, applicable equally to the treatment of typhoid fever, or any severe infectious disorder in which, ultimately, the heart's capacity to continue its driving power is challenged. Of course, if we can find means to keep the heart beating perpetually, whatever the associated conditions, patients will never die, whatever diseases they have; but our efforts in any complaint should surely be directed to checking its progress short of the period at which the heart is brought into a critical condition.

One cannot discuss the treatment of pneumonia in the present day without asking whether any help can be obtained from bacteriological methods. Attempts have been made, of course, to provide an antitoxic or anti-bactericidal serum, which would neutralise the ill-effects of the pneumococcus and its toxines. The late Dr. Washbourn was at work upon this subject shortly before his lamented death, but though he tried a serum in some cases, I believe he had no great success; and, at any rate, there does not appear in this country to be available a serum upon which any reliance can be placed. In foreign literature reference is often found to Römer's serum, and an article on the subject by Winckelmann (in the 'Münchener Mediçinische Wochenschrift,' Jahngany 53, pp. 25–29), gives a very good review of the subject up to that date.

Römer obtained a serum from horses, cattle, and sheep, which had been treated with various strains of pneumococci from human sources. It is a bactericidal polyvalent serum. Winckelmann treated sixteen cases with it: two were aged ten, one eighteen, two twenty-three, one twenty-five, and the others were between thirty and fifty-seven. The results were very variable, often apparently negative. Five cases, or 31 per cent., died, which is not a striking success, but it must be stated that they were all severe cases in which the serum was used.

Of fifty-one cases altogether hitherto published, in which the serum has been tried, the mortality has been 17·6, that is to say, nine were fatal. Winckelmann says that in the large towns, presumably in South Germany, the general mortality is 20 to 25 per cent., but in military service it is as low as 3·5.

His general conclusions are that it is probably harmless; that its good result is not certain, but probably it has been useful in severe cases, for which he finally advises its use.

I am struck in reading the accounts of the collection of cases, to some of which I have referred, with the frequency with which, especially in America, it is recommended to be satisfied with a treatment, which is as nearly as possible negative, or the positive side of which consists solely in *ventilation.* Northrup,* for instance, treated a case in the following fashion. It was a child, aged 14 months, suffering from broncho-pneumonia. The child was placed in the largest available room with two doors and two windows, one of each being constantly open. It was in December, the air temperature was 28° F., and the nurses wore fur. The patient had cold water *ad libitum* to drink and the face was often sponged. But the feet were put into hot water baths under the clothes, and hot saline enemata were administered on account of flatulence. The case ran twelve days, and terminated by a crisis, and the only medicinal treatment employed was a total of one-fifteenth grain of strychnine, and one drachm of whisky.

A year later Northrup published another case in which a similar method was pursued ('Boston Med. and Surg. Journal,' February the 22nd, 1906, p. 216). The patient was a boy, aged 13 years, and the attack was severe; the temperature on the third day rose to 105° F., and reached 104° or 105° every day for nine days. The whole left side was ultimately involved, pleurisy was present, there were violent delirium, picking at the bed-clothes, and risus sardonicus, and the attack was succeeded by a condition of mental disturbance reminding the author of the post-typhoid state associated with exhaustion. The treatment was as follows: The bed head was placed between two open sashes in a bay window; the lower sashes were opened to their utmost. As the author racily remarks, "the working rule was, nothing between the nose and the North Pole." It was in the month of March, the temperature of the room was, perhaps, 40° F., and the nurses wore heavy wraps night and day. The boy had no extra cover over his chest, his arms were out, and in the first week he was allowed to tear open his shirt and expose his chest as he liked. Not a word is said about drugs, nor is even the diet mentioned, but then the paper was written as an illustration of the advantage of a fresh-air treatment over the coddling methods of some years ago.

This contrasts curiously with the practice of only a few years ago, not yet entirely given up, in which the child with broncho-pneumonia was confined within the five walls of a canvas test, was deluged with the vapour and steam of a boiling kettle close by, while the chest was closely wrapped round with a jacket poultice—or in later times a thick layer of cotton wool.

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* 'Med. Record,' February the 18th, 1905.

The change from this coddling system to the advanced open-air method just mentioned must expose the present generation to as much criticism as that which we have ourselves been ready to shower upon the physicians of the early half of last century. But the possibility that ventilation is the proper line of treatment cannot be denied, though it must be confessed that it is not a very strong or heroic step to take. But as contrasted with the fear of draughts and cold one must remember that it has long been shown that the cold-bath treatment of typhoid fever improved rather than harmed the thoracic complications of the disease, that, as shown by Dr. Lees, children could stand very well the application of ice to the chest in pneumonia, and that the treatment has been applied often both in children and adults.

Gentlemen, it is time I brought this address to a close. I have said little about the pathology of pneumonia, not very much about its causation and nothing about its prevention—a subject which may some day find a place, and the need for which must be felt in these instances of family, or village, or epidemic pneumonia which occasionally come under observation, as well as in those individual cases of great liability to pneumonia in which it is commonly said, rightly or wrongly, that the predisposition to the disease increased with every attack.

But no one could have expected that the whole subject of pneumonia in children could be exhausted in one hour. I feel now, as I have felt under similar circumstances, that I have touched only the fringe of the subject, that I should like to devote three or four times as much effort and time to it as I have already done, and, could that be I should perhaps produce results more worthy of the sentiments which have inspired the founder of this lectureship and of the Society under whose auspices it is delivered.

THE EFFECT OF ALTITUDE UPON SCHOOL CHILDREN IN RELATION TO PHYSICAL EXERCISES.*

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In the following paper I propose briefly to discuss certain observations I have made in reference to the influence of physical exercises upon the cardio-vascular system of school boys who live at the considerable altitude which Johannesburg occupies above the sea-level. These observations are incomplete and not sufficiently far-reaching to secure to them any great scientific value. They have been set down, indeed, chiefly in the hope that their publication will elicit information from other observers who may have had similar experiences.

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* Read before the Second International Congress on School Hygiene, London August, 1907.

My attention was first directed to the subject under discussion in the year 1905, soon after my first arrival in Johannesburg, when a request was made to the Transvaal Medical Society by the Head and Games Masters of the Johannesburg High Schools for guidance on the question of the wisdom of the institution of cross-country races for school boys locally. Inter-scholastic cross-country races had been held annually in Johannesburg for three years, and on each occasion, it was stated, many of the competitors had become exhausted to an extent that was quite unusual in such races in England. Each year one or more competitor had completely collapsed at or before reaching the winning-post, whilst several others had been exhausted to an extraordinary degree. The organisers of the competitions began to feel alarmed at these results and desired to be informed whether cross-country races at the altitude and in the climate of Johannesburg were likely to prove injurious to boys.

My first step was to inquire into the circumstances under which the competitions were conducted. I found that the races were held in winter, and in the late afternoon when there was no strong sun. All competitors were subjected to a course of preparatory training to which no exception could be taken, although the method of training adopted varied in form and in efficacy in the case of the different schools. No boy was permitted to participate in the race who had not previously been passed by a medical examiner. The ages of the competitors varied, but fifteen years might be accepted as an average age. The distance run covered a range of about four miles, and the ground traversed varied in character from a macadamised road to the stubbly "veld." In short, no exception could be taken to the manner of organisation and conduct of the races, and it was necessary to attempt to discover some reason for the untoward effects experienced. In England, I was informed by several teachers of long experience, similar ill-effects were almost unheard of as the result of cross-country races for school boys.

I decided, therefore, to undertake a physical examination of the boys who had taken part in the races at Johannesburg, of whom the majority were fortunately still accessible. In all the lads examined I found evidences of some degree of deviation from the normal in the condition of the circulatory system. In the majority of cases the heart was of "athletic" type, *i.e.* the apex-beat was lower and more to the left than is usual, the impulse was strong and heaving in character, there was a varying degree of transverse enlargement of the cardiac area, the second cardiac sound in the aortic area was accentuated, and the pulse was slow and strong and of moderate tension. This condition I regarded as one of physiological hypertrophy and indicative of the fact that the heart had successfully responded to the efforts demanded of it. In a considerable percentage of the cases the heart, on the other hand, presented evidences of strain and dilatation as shown by feebleness and diffuseness of the cardiac impulse, enlargement mainly of the right side of the heart, feebleness and impurity of the apical first sound, with accentuation of both first sounds at the base, and a feeble and fluttering rapid pulse-wave. In one instance there were definite signs of an actual organic valvular lesion characterised by a regurgitant mitral murmur. The boys in whom the heart had assumed a condition of hypertrophy were healthy-looking, well-set-up lads. The others imparted an impression of physical inferiority. The result of the examination was to show, then, that the strong boy, with good lungs and a powerful heart, who has undergone a wise preparatory training is not seriously injured by the strain of the cross-country race.

Next, I considered it advisable to ascertain whether physical exercises generally were badly borne by Johannesburg school boys. With this object I sought information on the subject from a number of prominent local teachers and physical instructors. The replies received to my inquiries were almost unanimous in stating that Johannesburg school boys tire out more rapidly in games than is the case with English boys. Official recognition is evidenced of the truth of this statement by the fact that the maximum time limit of football play in local school league matches is fixed at a lower limit (by some fifteen minutes) than obtains in Great Britain. The statement generally made by my informants was that Johannesburg boys are not imbued by that desire for violent exercise which is the characteristic of the English-born boy. In view of this information, I took opportunity frequently to witness school games and athletic sports, and my observations fully bore out the statements quoted. At school sports I was particulary impressed by the relatively large number of boys who collapsed at the end of the longer races such as the quarter mile and one mile flat races. This feature, as might be expected, was especially characteristic of sports for the poorer primary schools (schools corresponding to the elementary Board Schools in England), the pupils of which, in a considerable proportion of cases, are underfed and of feeble stamina. Nevertheless, amongst the boys of the better-off classes, too, who might be expected to be in good physical condition, similar break-downs often occurred. These boys presented the signs of acute cardiac dilatation or heart failure as characterised by dizziness and faintness, inability to stand, dyspnœa, precordial or epigastric distress, pallor or cyanosis, in some instances vomiting, a rapid and irregular pulse-wave, and by an increase in the transverse cardiac area. In most cases, no doubt, the dilatation soon passes off and leaves no permanent injury, but in several instances these boys subsequently came under my professional care with all the symptoms of "irritable heart" as evidenced clinically by slight dyspnœa, palpitation, insomnia and incapacity for work, and objectively by the signs of myocardial degeneration.

I had now met with a considerable number of "athletic" boys who presented cardiac changes which were not as a general rule characteristic of equally athletic lads in England, and one was tempted to the conclusion that physical exercise, in some specific manner, influenced the condition of the heart in Johannesburg school boys. Before drawing this conclusion I determined, however, to examine a further number of lads, with the view to obtaining a clinical picture of the condition of the normal heart of the boy who is of non-athletic habit, and whose cardio-vascular system had not been subjected to any special physical strain. With this object I examined over three hundred school boys, indiscriminately selected without reference to their physical habits or prowess.

Before proceeding to describe the results of this investigation, it is well, perhaps, to state that I have been trained, in the matter of the examination of the heart, in the school of Dr. D. H. Lees, late of St. Mary's Hospital, and the Hospital for Sick Children, Great Ormond Street, London. I hold, with Dr. Lees (see articles on "Acute Dilatation of the Heart," 'British Medical Journal,' January 5th, 1901; "The Heart of the Child," 'Lancet,' February 1st, 1902; and other papers by the same writer) that the stethoscope has been far too dominant in the physical examination of the heart, and that palpation and percussion are too much neglected. In auscultation it is necessary not to be satisfied merely with the decision that no murmur is detected, but to regard alteration in the normal heart-sounds which may be vastly more important than a murmur, *e. g.* an almost inaudible mitral sound, or a greatly exaggerated aortic second sound, may be much more alarming. With regard to percussion, the "superficial cardiac dulness" informs us merely how much of the heart is not covered by the lung without giving us any information as to the size of the organ; "deep percussion" brings out far too much pulmonary and gastric resonance from a distance and usually confuses the result; but a light percussion demonstrates the margin of the heart with the greatest certainty. Adopting this mode of percussion, the dulness of the right auricle may always be detected, even in the heart of a normal child, in the fourth right intercostal space to the extent of nearly one finger-breadth. When the auricle is dilated the dulness may extend to two or more finger-breadths in the fourth, and may also be present in the third and sometimes even in the second right intercostal space. The left border of the cardiac dulness in normal children is usually distinctly internal to the left nipple, may sometimes reach it (especially in younger children under seven years of age), but rarely in health goes beyond it. Dr. F. J. Poynton (quoted by Dr. Lees) determined the condition of the left border of the cardiac dulness in a number of healthy public-school boys, between the ages of twelve and fourteen years, with the result that in 85 per cent. of the cases examined the left border was within the left nipple-line, and in 15 per cent. it was at the nipple-line. These are the only statistics on the subject with which I am acquainted, but my own observations on healthy children in London, enable me fully to confirm these statements. In view of the diverse and somewhat conflicting methods adopted by different observers in the physical examination of the heart, I trust that no apology is needed for this brief digression in elucidation of the lines of investigation I have followed.

As the result, then, of an examination of 310 boys, ranging in age from ten to sixteen years, I discovered that only 105, or 34 per cent., possessed hearts which conformed to the normal standard, and of the remaining 205 boys 182 (or 89 per cent.) presented evidences merely of what I have already described as physiological hypertrophy of the heart; three cases of organic valvular lesion were met with (two cases of mitral regurgitation and one of congenital morbus cordis—probably stenosis of the pulmonary orifice); the remaining 20 cases presented evidences of cardiac dilatation—irregularity of the heart's action, feebleness of the radial pulse, enlargement of both ventricles, etc. (in several of these cases a history of recent infectious diseases—influenza, acute rheumatism and scarlet fever—was elicited). On comparing my results for boys described as of sedentary habit with those obtained for boys of athletic tendency, I was unable to detect any appreciable differences; the sedentary boys showed as large a percentage of cardiac abnormalities as did the athletic lads.

In brief, then, my investigations showed that in 66 per cent. of the school boys there existed some degree of deviation from the normal in the condition of the heart.

In explanation of this state of affairs we are compelled to fall back upon the consideration of altitude. Had this cardiac derangement been discovered only amongst a localised group of athletic lads it might have been ascribed to over-strain, or to excessive physical exertion undertaken upon insufficient preparatory training. It has been shown, however, firstly, that the Johannesburg boy as a genus, does not display an excessive strenuousness in his games; secondly, in the case of the cross-country runners it was seen that the boys were carefully prepared for the strain by training; and thirdly, the condition occurs in 66 per cent. of Johannesburg boys and amongst those of sedentary habits as frequently as amongst those of athletic proclivities. Were the climate of Johannesburg of a tropical or sub-tropical type one might, in part at least, attribute the condition to the physical relaxation resultant upon this factor; Johannesburg, however, enjoys a temperate climate, with a keen and bracing winter and a mild summer. In short, there is no local factor to account for the condition of cardiac derangement described, beyond that of altitude.

Johannesburg occupies an altitude, approximately, of 6000 feet above the sea-level. The barometer reading is consequently lowered to about 25·4 inches from its sea-level reading of 30 inches, and the available oxygen in a given cubic volume of air is reduced by rather less than one-fifth, or from, say, 21 per cent. to 16·8 per cent. The air is thus considerably rarefied in consequence of this diminished tension of its oxygen contents, and in order to inspire the same amount of oxygen as is inspired at the sea-level the respiration rate must undergo a compensatory increase. This increase, it is true, is probably not so great as might be expected, for it has been found in experiments on animals that so long as the percentage of oxygen in the air does not sink below 14, as much oxygen is absorbed into the blood as when this gas is present in normal proportion in the air. It is, therefore, probable that the increase in respiratory work is much less than the ratio of diminution of oxygen, in a given volume of air, at Johannesburg as compared with air at the sea-level. Nevertheless, even if the increase is not proportional, a certain increase does occur and consequently an increase also in the force and frequency of the heart-beats. Clinically this increase is evidenced by the accelerated pulse-rate found amongst healthy individuals in Johannesburg. The primary effect of the rarefied atmosphere is, thus, to stimulate the cardiac action, blood being thrown into the aorta both with increased force and increased rapidity. The secondary effect of the rarefied atmosphere, consequently, is to throw increased strain upon the heart. This strain is very slight, no doubt, but it is continuous. In other words the rarefied atmospheric conditions influence the heart very much in the same manner as might a habitually-repeated, slight physical strain or exertion. In a healthy adult with a well-developed circulatory mechanism, so slight a strain as is involved by the atmospheric conditions would probably lead to no recognisable alterations in the cardio-vascular system. In the growing organism of the child, on the other hand, the heart is much more susceptible even to slight additional strain, the processes of waste and repair are more rapid, the vessels more elastic and the nervous mechanism governing them more sensitive, and the deleterious effects of over-work are easily produced. The immediate effect of the habitual increased stimulus to the heart's action is seen in the hypertrophy of the left ventricle. This is a physiological and compensatory enlargement which, of itself, offers no dangers, and is an indication, indeed, that the heart has responded to the efforts demanded of it. Its danger lies, as Dr. Samuel West ('British Medical Journal,' June 23rd, 1906,) only recently again reminded us, in the fact that hypertrophy or growth takes place at the expense of the cardiac reserves, so that an enlarged heart has diminished reserves, and the greater the hypertrophy the less the reserve. By-and-bye the limit may be reached and all the reserves be exhausted by growth. The heart which was thus at one time exceptionally strong may eventually become weak and less resistent, and under any exceptional strain easily passes into dilatation and a temporary or even permanent condition of heart failure. Such strain may be produced by some unaccustomed, sudden, or prolonged physical exertion as that experienced by the boy with a hypertrophied heart who, perhaps, without sufficient preparatory training, exposes himself to the enormous strain incumbent upon competition in a cross-country race. Usually these cases of dilatation (affecting particularly the right heart) are not very serious; the avoidance of severe muscular effort, and rest, as a rule, enable the heart to regain to a large extent its original condition, though, perhaps, never entirely. More usually the decisive strain is thrown upon the heart by some disease, such as pneumonia, in which great demands are made upon a heart that is at the same time weakened by toxæmia.

The lesson, then, to be drawn from the foregoing observations is this, that in a large percentage of Johannesburg school boys there exists some degree of deviation from the normal of the cardio-vascular system, dependent upon the rarefied atmospheric conditions which prevail at Johannesburg. These conditions demand habitual overwork from the heart which finds expression in many cases, in the production of a varying degree of cardiac hypertrophy. As a general rule this enlargement of the heart is purely compensatory and of no immediate consequence. Its danger rests in the premature consumption of that cardiac reserve upon which the healthy subject falls back in circumstances of exceptional stress such as are involved in unwonted physical effort or in disease.

In closing, I trust that it will be conceded that the following general recommendations and conclusions may justly be based upon the results of the observations I have described :

Recommendations and Conclusions.

(1) That before engaging in athletic competitions involving great muscular strain, Johannesburg school boys should be subjected to careful preparatory training. Sudden and unprepared athletic efforts are of especial danger to Johannesburg boys, amongst so large a percentage of whom cardiac defects have been shown to exist.

(2) That in Johannesburg athletic efforts involving prolonged and severe muscular strain, such as cross-country races, should not be permitted to school boys in view of the rarefied atmospheric conditions which of themselves make unusual demands upon the cardio-respiratory mechanism.

(3) That a medical man be attached to every school in Johannesburg under whose supervision all athletic exercises shall be placed, including the medical examination of all intending participants in the severer athletic games and exercises. If over-exertion is capable of doing injury to normal structures, its untoward effects must much more readily be produced when these structures are already unsound, as is the case in 66 per cent. of Johannesburg school boys. No boy should, consequently, be permitted to play football or compete in the longer races at athletic sports who has not been found to be physically fitted to bear the strain. For the

boys not fitted for these efforts milder exercises, such as walking, cycling, and perhaps tennis, are indicated. That the necessity for these precautions is not appreciated is proved by the relatively large percentage of cases met with in which heart-failure has actually occurred. This disastrous result—for the condition offers grave detriments to future health and activity, and perhaps to life itself—in most instances might undoubtedly have been prevented by the previous medical examination, and exclusion from severe physical efforts, of those boys in whom cardiac defects are already existent.

A CASE OF ANTERIOR POLIO-MYELITIS INVOLVING THE MUSCLES OF THE TRUNK.

By J. M. Fortescue-Brickdale, M.A., M.D.Oxon.,
Physician to the Royal Hospital for Sick Children; Medical Registrar Royal Infirmary, Bristol.

The child was admitted into the Royal Hospital for Sick Children, Bristol, in May, 1907, with a history of good health up till the age of five months, when he had a feverish attack, with vomiting, lasting about a week. Towards the end of this attack, at 6 a.m. one morning the child was apparently well, but two hours later the mother says she thought the left arm was swollen, and it was found that the child could not move it. When the feverish attack was quite over it was found that the legs were also paralysed.

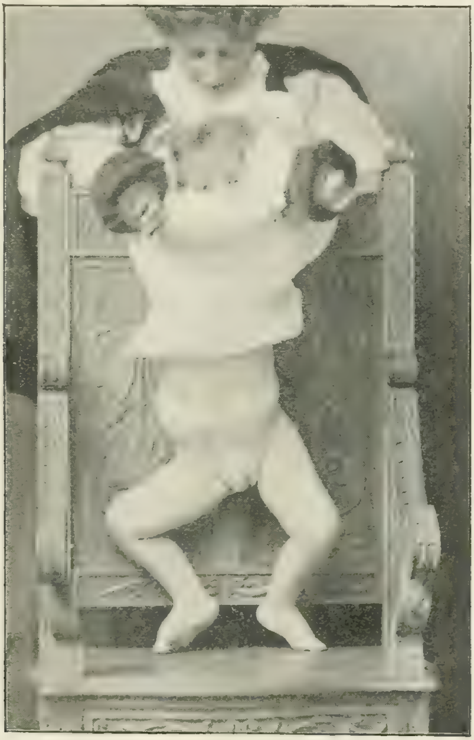
On admission, at the age of one year and eight months, the child was well-nourished, healthy in aspect, and apparently very intelligent. There was complete loss of power in the legs and in the abdominal muscles on the right side. The wasting was not very obvious, being partly concealed by fatty tissue, and the legs were not markedly cold or blue. The knee-jerks and superficial reflexes were absent in both legs, and no response was obtained to the galvanic or faradic currents. The latter could be borne without pain in the lower extremities, whereas in the arm it caused crying. The bladder and rectum appeared to be normal. There was some weakness of the arm muscles, but no definite paralysis of either arm.

The points of interest in the case appear to be, firstly, the involvement of the abdominal muscles, which is unusual.

Three cases have been shown to The Society for the Study of Disease in Children. The first, shown by Dr. Frederick Taylor (vol.

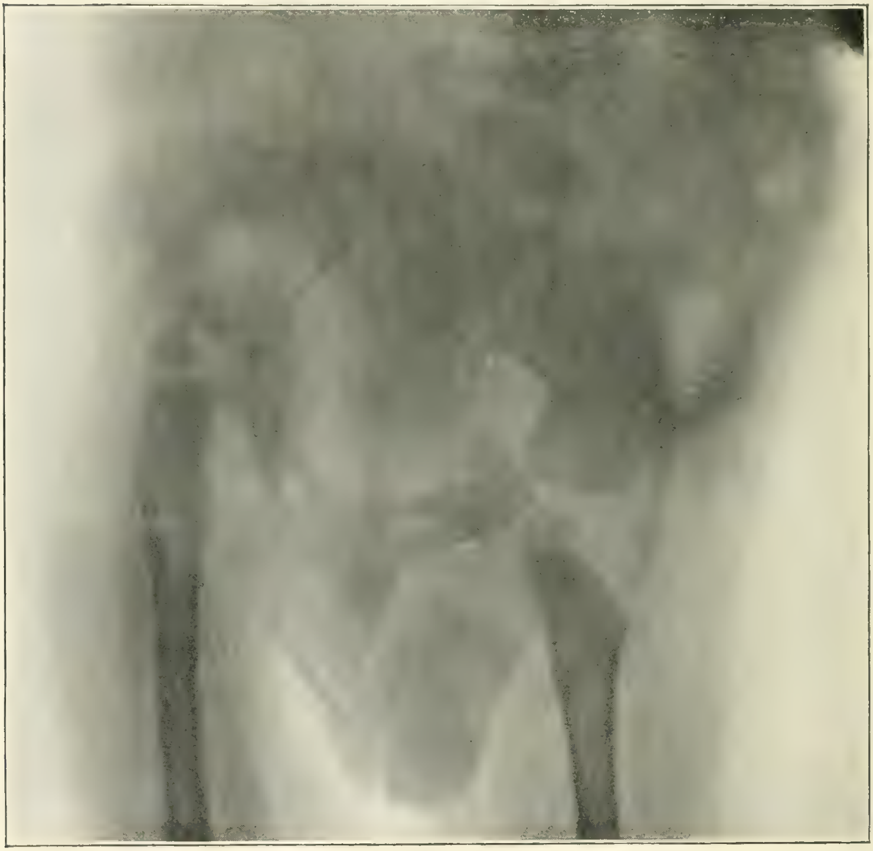
iii, p. 247), occurred in a girl, aged 14 years. Both arms and legs were at first involved, but the former recovered. There was no bulging of the abdomen. The second case, shown by Mr. Arthur Edmunds (vol. v, p. 15), had been under observation for some years. The attack had occurred when she was about two years old, all four limbs and the muscles of the head and neck being affected. The permanent paralysis consisted of a weakness of the right leg and a patch of weakened abdominal wall on the right side, which did not extend the whole distance between the ribs and Poupart's ligament. The third case was shown by Dr. George Carpenter (vol. vi, p. 53) ("Infantile Paralysis of Abdominal Muscles, both Legs and one Arm in an Infant, aged $2\frac{1}{2}$ months"). The attack commenced six weeks previous to his admission into hospital. The right foot was not affected, but the rest of the limb was paralysed. The left leg was completely paralysed. In the left leg reaction of degeneration

Fig. 1.



was present. The right leg showed loss of reaction to faradism but no polar change to galvanism. The abdominal muscles were completely paralysed, and they did not react to faradism. He could move his right hand, but the rest of the limbs and the shoulder muscles were paralysed. The electrical report was that there was no reaction of degeneration in the arms, but at a subsequent examination, under an anæsthetic, the deltoid, biceps, and pectoralis major muscles did not respond to faradism but fully to galvanism. The forearm muscles reacted well to both currents.

Fig. 2.



The accompanying photograph and skiagram show the bulging of the abdominal wall and the scoliosis with tilting of the pelvis in the present case, and also the flaccid lower extremities, which are rotated outwards.

The slight degree of obvious wasting in the lower extremities is also of interest, as is the loss of sensation, as evidenced by the equanimity with which the faradic current was tolerated. The latter phenomenon has been noted by Ashby.

Second International Congress on School Hygiene.

Held in London August the 3rd—9th, 1907.

(Reported by Dr. M. D. Eder.)

Section VII.—CONTAGIOUS DISEASES, ILL-HEALTH, AND OTHER CONDITIONS AFFECTING ATTENDANCE AT SCHOOL.

In his opening address to this section, Sir Shirley Murphy maintained that since compulsory school attendance is inevitable under the conditions of our civilisation, it becomes a moral obligation on the part of the State to protect the child from the undoubted increased risk to disease to which the child is thereby exposed. In our study of this subject we are at first confronted with the fact that the risk of infection to the school child in the school is only part of the whole. It is impossible to ignore the conditions which prevail at the home. The separation of the Education Authority from the Health Authority has created great difficulties in the way of organised administrative effort. It was manifest in London during the 1892–1897 epidemic of diphtheria, during which some 15,000 children lost their lives. The administration designed to protect the health of the population at all ages is that which must be concerned with the health of the child at school age. From a consideration of the number of cases of scarlet fever and diphtheria which occurred during the month of August during the ten years 1895–1904 with the number of cases of these diseases which would have occurred had the schools remained open, his view is that there is a decrease of infectious disease among children of school age as the result of the closure of the schools.

The difficulties in dealing with infectious diseases in school arise (1) from inability to detect exceedingly slight cases of disease and still more from (2) the difficulty of detecting "carrier" cases.

In view of the special incidence of infectious diseases upon children in the first few years of life, the question of the age at which these children should be required to attend school well deserves special study. Unfortunately it is the usual practice to group for the purposes of publication, all cases occurring from five to ten years of age. He would appeal to those who have the tabulation of the figures, to separate for each year of life the number of attacks and the number of deaths. It should be borne in mind that if the age of attack is deferred, it results in a lessening of the fatality of the disease.

The Control of Diphtheria in Schools.—Dr. Niven said that the aggregation of children in elementary schools diffuses diphtheria sufficiently to affect the total incidence of the disease and the effect would be more pronounced in sparsely-populated rural districts. He had been able to study the behaviour of diphtheria in relation to schools in Manchester. A great increase is shown in the number of cases at age three, which is the year of maximum incidence. The numbers attending school at age three are not much over one third of the numbers attending at four. The year of maximum incidence is the time in which children are first brought into intimate intercourse with each other. The influence of school life is most marked when the total incidence of diphtheria is greatest, which agrees with Sir Shirley Murphy's examination. A comparison of the death-rate in the three divisions of the city showed that the death-rate in North Manchester, at school ages, is between two and three times as great as for the Manchester township, which is, however, the poorest portion of the city, with the poorest school. This is explained partly by the fact that school diphtheria pursues a course of its own, partly to the lesser aggregation of the children might be the absence of playgrounds in the centre of the city. The broad conclusion is undoubted that diphtheria is widely diffused in the earlier period of school life. No serious case of that illness presenting signs of diphtheria should be entirely rejected simply on bacteriological grounds. No children from an infected house suffering from sore throat, sore nose, or discharge, should be re-admitted to school unless free from diphtheria bacilli on three consecutive examinations.

Dr. Poynton stated his concern was necessarily with health rather than with education. The question of sore throat was all important. Apart from the recognised infective diseases it might be the first symptom of rheumatic fever. The general public was little aware of the frequency and severity of this disease in childhood. It was the great cause of heart disease in childhood and also of chorea. The headaches, irritability, and irregular movements of early chorea are put down to naughtiness. It was of great importance that school teachers especially should be acquainted with the chief dangers of the rheumatic affection.

Epileptic children form another difficult problem, indeed, two separate problems: one is that of the actual fit, the other the mental condition between whiles. Experience shows that there are all grades and varieties of attacks. No single rule can be laid down for the education of these children. We cannot group them into two great classes those able to attend school, and those fitted for an epileptic colony. This would bear out the large number not able to attend school regularly yet unsuited for a colony.

Deficient children, especially the fortunately small group of the morally insane, must not be sent to the same schools among the healthy-minded children.

There is a large group that can only be dealt with by skillful and gradual organisation. Many children not naturally robust, become, particularly in the summer, pale, languid, irritable. No actual disease is discovered. Many severe illnesses result from the neglect of these early signs of failure of health. It would be a great step if some scheme could be evolved by which these cases could be drafted to country or seaside convalescent homes in touch with country schools.

School Children and Tuberculosis.—In the absence of Dr. NEWSHOLME his paper was read by Dr. KERR. Dr. Newsholme stated that, as a fatal disease, tuberculosis is relatively uncommon at school ages. Taking the ages four to fifteen together, it is the registered cause of death each year of only about seven of every 10,000 children living, while pulmonary tuberculosis only supplies three out of these seven. On the assumption that there are constantly ten non-fatal cases for each annual death, three out of every 1000 children at school ages are suffering from pulmonary tuberculosis. Not all of these children would be attending the schools, but of 806 such children exhaustively examined at Brighton only three cases of pulmonary tuberculosis were found. At Dundee among 517 children there were no cases; at Dunferline 1371 children were examined with the like result. In Edinburgh, however, fourteen cases were found in 600 children. In Aberdeen three cases in 600 children. Taking these and other figures into consideration there would probably be found on the average not more than one in 300 children in schools showing revealed or diagnosable pulmonary tuberculosis.

Latent tuberculosis is undoubtedly very frequent in children; the schools must be prevented from becoming places in which latent tuberculosis is brought into activity. Overcrowding is the rule in schools. Classes are too large. A larger floor-space should be required. Children must be excluded who have open or revealed tuberculosis.

Dr. OLDRIGHT, Toronto, dealt especially with the lamentably prominent position held by the teachers of the Province of Ontario in the death-list from consumption. In most civilised countries the State assumes it to be its duty to give the child a fair start in life. If it compels the child to attend school, as it rightly does, it is all the more its duty to see that it does not thereby compel him to be in a place injurious to his health. He expected the Congress would make some definite pronouncement as to whether the State will do what it can to help in conserving the lives of teachers and pupils in the school room, and in lessening the influence of the school room as a factor in the production of tuberculosis.

Dr. GOURICHON, Paris, stated that in Paris and in the Department of the Seine, tuberculosis is uncommon among the teachers in the elementary schools. When it does occur it is nearly always contracted outside the school.

Dr. JESSEN, Copenhagen, claimed that whilst there was no great danger of child-to-child infection, but teacher-to-child infection may be serious. Every teacher dismissed by reason of suffering from tuberculosis has a pension amounting to two thirds pay. For tuberculous children separate education is provided, the State contributing three fourths and the Land Authority one fourth of the cost.

Dr. SQUIRE had made an examination with Miss Annie Gowdey into the incidence of tuberculosis in elementary schools in West London. Returns of 58,934 children gave 0·55 per cent. as supposed to be suffering from pulmonary tuberculosis by the teachers or parents; 0·44 per cent. were similarly believed to be suffering from other varieties of tubercular disease. In one special district the returns were extended to find the number of children out of school with these causes assigned; out of 5679 such children 6 per cent. were said to have pulmonary, and 13 per cent. other varieties of tubercular disease. On examining all the 1670 children of two schools, 0·47 per cent. showed signs of tubercular disease of the chest, 0·83 very doubtful, and 2·8 per cent. presented non-tubercular diseases of the chest. The tuberculosis was quite unsuspected in most cases.

Skin Diseases and School Attendance.—Dr. PHINEAS S. ABRAHAM called attention to the prevalence of ringworm in the Metropolitan elementary schools. Not only should it be the duty of the State to prevent the contamination of healthy children in the schools, but the treatment of these cases should also be undertaken by the State. Competent medical men should be employed to systematically visit and examine the children in the elementary schools, and to superintend the treatment of those affected.

Dr. CRITCHLEY found that in London one ninth of the absences was due to ringworm. In 90 per cent. of the cases the *Microsporon* was the offending parasite. The larger spore ringworm *Tricophyton Megalosporon*, so much more amenable to treatment, was rarer here than abroad. Croydon lost £300 annually in education grant from ringworm absence, and found it pay to set an installation to work at the Borough Fever Hospital.

Dr. RICHARDS and WINIFRED THORP found the average duration of cases to be eight weeks by X rays, and thirteen weeks by drugs. They considered it advisable to keep all cured cases under observation for three months owing to the tendency to relapse.

Section VIII.—SPECIAL SCHOOLS FOR FEEBLE-MINDED AND EXCEPTIONAL CHILDREN.

Dr. BOULENGER'S (Brussels) paper dealt with the necessity of a school clinic in order to separate the normal from the abnormal children. For the latter special training was required; the schools should be in the country. The police should be compelled to notify to the scholastic authorities all cases of children who have been arrested and who probably all require special educational methods. After leaving these establishments the children should be placed under the superintendence of a special committee. The State must give its whole-hearted support to these measures.

Dr. SHUTTLEWOTH reminded the section that the Defective and Epileptic Children Act (1899) provided for the medical examination and certification of these cases. He advocated the formation of intermediate schools where children of *low moral grade* and moral imbeciles should be received. These cases should be excluded from the special schools.

Dr. HERTZ (Copenhagen) read a paper on the backward children in the elementary schools of Copenhagen. There auxillary classes are formed of those of slow mental development. Investigation into causes of their retardation showed that poor physique, bad home conditions, over work out of school hours, adenoids, ear trouble and deafness were reponsible. He emphasised the need of proper medical inspection.

Mr. ELMSLIE had recorded careful notes of 1050 children examined in the special invalid centre schools. The first important point to notice was the frequency with which disease reappears in apparently cured cases. Therefore, such children must always be kept out of the large general schools, no matter how well they appear to be. The next feature is the large proportion of these children who are left with a severe deformity, which seriously affects their prospects in after-life. This is not entirely unavoidable. The present means of treatment are quite inadequate. Children have to be sent out of hospital long before they are fit to attend as out-patients. Owing to pressure in the beds meddlesome operative surgery is undertaken, which is not altogether the fault of the surgeon.

After school-life a large number of these children are turned out into the world at fifteen or sixteen to make there way as best they can, their physical defect being ignored. The community at large must be the poorer by having a number of physically unfit individuals left upon its hands. The present methods are most unsatifactory. The work is voluntary, is not always systematic, and is carried out by energetic people who mean well and work hard, but too often have an insufficient technical knowledge.

(1) Three classes of children must be provided for:

(*a*) Children with tuberculous diseases of the bones and joints.

(*b*) Children with fixed deformities and paralyses.

(*c*) Children with diseases of the heart, lungs, etc., of a chronic nature.

(2) For children of the first class treatment at the earliest possible time after the disease shows itself is essential, and as these conditions arise early in life provision must be made for quite young children.

(3) Whether the institutions provided are called hospitals or schools is immaterial; they must serve both purposes.

(4) Technical instruction is essential for the older children.

(5) For certain cases the provision of a permanent home is desirable.

Section IX.—SCHOOLS FOR BLIND, DEAF AND DUMB CHILDREN.

Dr. Bronner's paper dealt with the causes and prevention of blindness in children. He suggested that some universal standard of defining the various degrees of weak sight be adopted for all countries. Vision of $\frac{6}{9}$ to $\frac{6}{12}$ to be called "fair sight," $\frac{6}{18}$ to $\frac{6}{24}$ "weak sight," $\frac{6}{36}$ to $\frac{1}{60}$ "bad sight," and less than $\frac{1}{60}$, "blind." An intermediate class of school is required for children who are not blind but can see a little. Congenital blindness could to a great extent be avoided, if persons suffering from hereditary eye-diseases were not allowed to marry. Purulent ophthalmia is still a very common cause of blindness. The midwife should be punished if she does not send for a doctor within twelve hours of any inflammation. Other causes of blindness are diseases of the cornea and other parts of the eye. The vision of every child should be tested as soon as it can read large letters, and glasses should be provided for all children requiring them.

Mr. Macleod Yearsley dealt with the problems of the Deaf School child.

Special schools for the totally deaf are necessary, but what of the partially deaf, suffering from actual dangerous disease? These children left untreated usually through parental ignorance or indifference.

We are not giving the attention that is needed to the cases of slight deafness to be found in fair numbers in our schools, or to those whose lives are in danger from chronic suppuration. They are allowed to become wastrels. The importance of treatment at very early ages, the need for special legislation, the instruction of parents, the appointment of medical inspectors with special skill in otology. The death of every State school child from curable middle-ear suppuration is a crime.

Section X.

Dr. Clement Dukes, Rugby, presented a record of the physical examination of 1000 boys at their entrance on public school life. The ages were between thirteen and fifteen. They may be regarded as a special class, strong and healthy, well bred, well fed, and reared mainly in the country.

The proportions are here expressed as percentages of the aggregate cases :—

Height	Above normal	52·2
	Average	11·3
	Below normal	36·5
Weight	Above normal	47·2
	Average	5·7
	Below normal	47·1
Chest Measurement	Above normal	44·5
	Average	13·2
	Below normal	42·3
	Congenital	1·7
Deformities	Acquired	149.1
Nervous Peculiarities		8·1
Defective Hearing		3·4
Defective Sight		20·8
Teeth	Well-cared for	94·3
	Neglected	5·7
Respiration	Nasal	88·8
	Oral	11·2
Heart Disease		1·0
Chilblains		43·7
Hernia		0·8
Varicocele		9·6
Incontinence of Urine		2·8
Albuminuria		15·7

It is somewhat depressing to register in the twentieth century the large number of acquired preventable deformities (not momentous, it is true, but still indicative of inferior systems of nurture and education) which are presented by the most favoured class of boys in Great Britain—deformities occurring between the time of nursery-life and the completion of education in the preparatory school at the age of thirteen.

Section I.

Miss Ravenhill had made an investigation into the hours of sleep among English school children. 10,000 forms of question were sent out and 8600 returns were obtained. She found there is widespread ignorance as to sleep requirements for children. Analyses of the returns tabulated show :

1. The percentage of sleep grows less (from 50 per cent. to 30 per cent.) in both sexes from four to seventeen years of age.
2. Girls have more sleep than boys, but neither have sufficient.
3. The variation is greater among girls ; both sexes have more in winter.

Sleep is affected by housing conditions and by home employment. The range of occupations for children is almost incredible. Finally, deficiency of sleep is a potent factor in malnutrition.

Dr. Altchuls, Prague, in his paper on the "Experimental Investigation of Brain-fatigue in School Children" admitted that, although the subject was of the utmost practical importance, it was by no means easy to carry out experiments the results of which would not be open to objection. Professor Griesbach had carried out most valuable experiments by adopting Wagner's subjective method of æsthesiometry to the measurement of fatigue. The author had made a large series of control experiment in adults: he had not found that Griesbach's results had any bearing upon brain-fatigue. He had come to a similar conclusion by experiments upon school children. In a series of measurements in conjunction with Dr. Kahn in not one case did the two experiments obtain the same figures. The proposal to form a small committee to investigate the question had been accepted at the first Congress, but nothing had been done. He still thought this was the best course, and hoped at the next Congress there would show something tangible about this extremely difficult and important problem.

Miss HOSKYNS-ABRAHALL spoke on child nature and routine. School education is based upon routine. Daily routine in connection with personal habits is the only routine which for young children can be regarded as good. School routine is a hindrance to the development, and requires to be radically reformed. This might be done without delay. Thus: bookwork should be postponed till after eight years of age; objective teaching adopted wherever possible; life histories of all objects used should be first taught. No drill should be allowed before ten. The size of classes should be reduced. In infant schools and rooms used by children under ten, desks should be abolished and the children sit on the floor. There should be no time tables in infant schools, and a frequent interchange of teachers.

Dr. CHLOPIN, St. Petersburg, dealt with a subject that happily is a novelty to English educationalists. Suicide or suicidal attempts among the pupils of the secondary schools in Russia is, as he said, an unsolved problem. A comparison has been made between it and another disease of school life —myopia: 337 cases of suicide and 97 attempts have been investigated. There is three times more suicide in school children than in the rest of the population. The methods most in use are in their order of frequency, shooting, hanging, poison. The chief causes are mental and nervous excitement.

Editorial.

ALCOHOL AND INFANT REARING.

THERE are scores of women who vainly imagine that a sup of gin or whisky or beer is a panacea for most infantile ailments. Not only will a nursing mother give alcoholic drinks to her infant-in-arms with the conviction that it will be benefited thereby, but she will not omit to prescribe the same remedies for herself. Some mothers take alcoholic stimulants because they believe in the time-honoured notion that these beverages improve the quality and the quantity of their milk. Others take them because they like them, and most people cling tenaciously to the view that what they like must be their good.

Whatever the inducements to take alcohol may be, it must be realised that it is harmful to the infant and is of no benefit to the mother, if it is not, as in many instances, actually harmful to her. It is indirectly harmful to the infant because it finds its way into the maternal milk, and so invades the child's system. When the nursing mother's system is saturated with alcohol, the breast-fed infant does not thrive. Clinically, many cases of infants have been reported in which both acute and chronic alcoholic poisoning was due to the passage of alcohol into the maternal milk. Women who are public-house frequenters are not only bad nurses but they are bad mothers. Babes-in-arms in public houses even late at night are unfortunately no uncommon sights in our large cities. An onlooker venturing to expostulate with the mother of a baby whom he found with a red herring in one hand and a whisky bottle in the other, was met by the angry response, "Who the dickens are you talking to, young man ? and me buried six !"

Not only must women be taught how best to feed their infants, but it must be impressed upon them that alcohol is not beneficial to nurslings, whether given directly in a teaspoon or indirectly by their breast milk. That the time has arrived for the dissemination of knowledge in regard to this matter is made abundantly clear by a perusal of the daily papers and by the experiences daily afforded in the out-patients' departments in children's and other hospitals.

Abstracts from Current Literature.

Medicine.

Fever of alimentary origin ('*La Presse Médicale,*' *May*, 1907, *No.* 42, *p.* 331).—**R. Romme** draws attention to the so-called butter-milk fever and to the researches of Tugendreich and Rivet, the former considering it a kind of intoxication by a heterogeneous albumin, and the latter as an aggravation of toxi-infectious, intestinal phenomena provoked by this substance in dyspeptic nurslings. But the more recent researches of **Schaps** ('*Berlin klin. Wochens.,*' 1907, *No.* 19, *p.* 597) show that this subject is still more complicated. This observer noticed a much more marked febrile reaction in infants when butter-milk containing 15 grms. of flour and 60 grms. of cane-sugar per litre was given. The fever fell if butter-milk without sugar was given. In the same infants the fever reappeared if, instead of sugared butter-milk, diluted cow's milk with sugar was given; cow's milk without sugar did not produce fever. Schaps admits that the sugar, if it produced the fever, must act after its absorption from the intestinal surface. To verify this hypothesis he gave to the nurslings in his clinic subcutaneous injections of sugar, of glycose (which is oxidisable), and sugar of milk (which is not resolved in the organism). The effects of these injections were very curious. Immediately after administration the temperature commenced to rise, reaching a maximum in from six to eight hours and then fell. The exact nature of the sugar did not seem to affect this reaction, which was greater when the quantity of sugar was larger. On the other hand, molecular concentration seemed to exert some influence, for Schaps noticed that in order to excite a febrile reaction of a given intensity it was necessary to inject twice as much sugar of milk as of glycose, the molecular concentration being twice as great in the latter as in the former. If the injections were repeated the reaction became less and finally disappeared, as if a kind of immunisation occurred; on the other hand, in a large number of the infants wasting and somnolence were produced. Schaps thinks that this is due neither to shock nor to re-absorption of pyrogenetic substances from the site of injection, but it seems to him more plausible that a kind of molecular action, probably purely physical, takes place. The conclusions to be drawn from these researches are: that a fever of alimentary origin certainly exists, and that in infants the subjects of digestive troubles this fever does not arise necessarily from the direct or indirect action of the bacteria found in the intestine. VINCENT DICKINSON.

Malaria in infancy (*'La Clin. Infant.,' June,* 1907, *No.* 11, *p.* 341). —**Crespin**, of Algiers, makes an interesting communication on this subject. As in adults, children become infected by the bites of the anopheles, but with regard to congenital or hereditary malaria opinions differ. Bein, Bowzian, and Bellantini have found the hæmotozoon in the fœtal blood, whereas Bignami, Bastianelli, and others have found it only in the maternal placenta. It is certain, however, that maternal malaria reacts on the infant, who is weakly and often presents marked enlargement of the liver and spleen. Below six years of age the symptoms differ somewhat from those of the adult. First there is a cold stage, generally short and followed by a rapid rise of temperature for several hours; at the same time there is vomiting and convulsions. Often a severe diarrhœa is noticed, and when the attacks are repeated swelling of the spleen is accompanied with phrenic neuralgia, specially on the left side. The sweating is less profuse than in adults, and the attacks, which may occur at any time, are more frequent in the evening, their duration being from four to thirty-six or forty hours. In very young infants fever is generally of the quotidian type, but double tertian and triple quartan are seen. Above the age of six the febrile types resemble those of the adult. Complications are frequent. Chronic malaria becomes established as easily in the child as in the adult, and the anatomo-pathological lesions are similar. Diagnosis is made by blood examination, and treatment consists in large doses of quinine; below two years, ½ to 1 grm.; from two to five years, 1 grm.; between five and ten years, 1½ grm.; between ten and fifteen years, 2½ grm. For chronic malaria cacodylate of soda and arrhenal. Splenomegaly is treated by X rays and ether spray. VINCENT DICKINSON.

Appendicitis (*'Pediatrics,'* 1907, *vol.* XIX, *p.* 220).—**F. E. Sutherland**

regards the symptoms of appendicitis in children as the same as those in adults, except that pain is often absent. The disease occurs, though rarely, in infants, and may be mistaken for colic, acute intestinal indigestion, intussusception, intestinal obstruction, strangulated hernia, pleurisy, pneumonia, psoas or iliac abscess, enteric fever, peritonitis, nephritic colic, herpes zoster, hip-joint disease. The cardinal symptoms are pain, tenderness, nausea and vomiting, rigidity of the muscles over the appendix. An acute attack usually begins with sudden pain about the umbilicus and extending over the whole abdomen, especially in the upper half, and hence liable to be mistaken for stomach-ache. The pain is spasmodic and paroxysmal. Local tenderness is found over the appendix, usually beneath McBurney's point. The temperature may remain low. A high temperature indicates gravity, but a low temperature is no sign of safety. The tongue is moist and furred, seldom dry. Constipation is the rule, but the attack may be ushered in with diarrhœa. Rigidity of the right rectus muscle is a most important sign. A local swelling is often found. The writer then discusses the differential diagnosis of the complaint. EDMUND CAUTLEY.

Nervous diseases ('*Pediatrics*,' 1907, *vol.* XIX, *p.* 195).—**F. Tilney** discusses certain phases of nervous disease in reference to consciousness and muscular action. Disturbances of consciousness in children usually take the form of delirium, stupor and coma. Any one of these may be due to toxæmia or focal lesion within the skull. If due to toxæmia, there may be fever, restlessness, and perhaps convulsions. Sudden and deep coma may usher in tuberculous meningitis. In the cerebro-spinal form it comes on later. Coma may also follow epileptic seizures. Convulsions represent disturbed muscular action due to nervous phenomena acting reflexly. In epilepsy the face is cyanosed; the spasm tonic at first, and followed by clonic spasm which gives place to somnolence or coma; the tongue may be bitten and the patient injured by falling. In hysteria there is no cyanosis; the spasms are tonoclonic from the first, and followed by tremor and violent purposive movements; the tongue is never bitten nor the patient injured. Multiple fits daily are not regarded as epileptic by the writer. They should be treated by gastro-intestinal medication, small doses of bromides, and sometimes by thyroid extract. Convulsions due to polio-encephalitis superior are ushered in by fever and vomiting; unrelieved by ordinary measures; may continue for several hours; are followed by paralysis, at first flaccid, and later spastic. Both spastic hemiplegia and paraplegia may occur with epileptic seizures as a sequel. Fits within a few hours after birth are often due to meningeal hæmorrhage; those following abrupt cessation of ear discharge may be due to abscess in the temporal lobe. A few depend on cerebral tumours. Spasm and irregular involuntary movements take the form of chorea, athetosis, habit-spasm, and tic. Unverricht described a family myoclonus or myoclonus epilepticus in which paroxysms of sudden shock-like contractions occur and last for several minutes. These children are epileptic. Tetany is another variety of painful tonic spasm, chiefly of hands and feet. It is most frequent in the rachitic and is transitory, never asting more than five or six weeks at a time. EDMUND CAUTLEY.

Fever and subnormal temperatures ('*Pediatrics*,' 1907, *vol.* XIX, *p.* 236).—**W. A. Northridge** refers to the ease with which the temperature is raised or depressed in the young, especially during the first five months of life. Even up to the sixteenth year high fever may occur from comparatively slender causes. Mere nervousness will cause a baby's temperature to rise three or four degrees. Too much importance, therefore, must not be attached to the temperature. The symptomatic value of fever depends on the disease and the effects of the disease on the child. The chart is not as valuable as in adults for either diagnosis or prognosis. Comparatively slight fever may be present in tuberculous meningitis, and sometimes in fatal cases of enteric fever and pneumonia. In fever the child's skin is often burning because of the slight amount of sweating. Heat is mainly lost by radiation. If possible the temperature should be taken in the rectum, and sometimes every three hours. Coal-tar products are unnecessary and often dangerous for reducing fever in infancy. Active measures are only necessary when there are symptoms such as drowsiness, delirium, convulsions, rapid and weak heart action, restlessness, and sleeplessness, or if the temperature is so high that such symptoms may be anticipated. Laxatives and abstinence from food often cause a fall in temperature, indicating that food may be injurious. The cold friction bath is the best method for reducing high fever. Fill a tub three-quarters full of water at 95° F., give the baby 10 drops of whisky, immerse it, except the head, and gently rub the body; reduce the temperature to 85° F. by adding cold water or ice. Keep the baby in the water for five to ten minutes, then wrap up well in sheet and blanket, and put a hot water bottle to the feet. Prolonged shivering after the bath means that either the bath was too long or the temperature too low. Stop the bath if the teeth chatter or the child becomes cyanosed. Before having recourse to the bath try the effect of rectal irrigation with a gallon of water at 95° F., and sponging with alcohol and water. Subnormal temperatures are due to exposure to cold, severe fluxes, malnutrition, athrepsia, prematurity, inanition, heart disease, collapse, anæmia, hæmorrhage, and for a short time after acute diseases. When due to cold and malnutrition the temperature can be best raised by giving whisky and strychnia, and by immersion in a mustard bath at 105° F. for five minutes, with gentle friction, and subsequent wrapping in blankets. EDMUND CAUTLEY.

Pylorospasm (*'Monatschr. f. Kinderheilk.,' Bd.* v, *S.* 355).—**Heubner** read a paper on this subject before the Children's Section of the seventy-eighth Versammlung deutscher Naturforscher und Aerzte, in Stuttgart. He has observed 49 cases out of a clinic of 10,000 children. Of 21 cases that were followed, 18 were alive a year later. The data as regards age, sex, and symptoms agree with those of other observers. Heubner considers that the condition is a muscle hypertrophy, not only of the pylorus, but often of the rest of the stomach—that is, secondary to a functional disturbance, or, in other words, it is not a primary malformation or new growth. He recommends medical treatment in all cases, and only surgical interference if this fails. ERNEST JONES.

Diabetes mellitus in children (*'Monatschr. f. Kinderheilk.,' Bd.* v, *S.* 243).—**E. Brand** has written an inaugural dissertation at Berlin on this subject. Bogoras collected 560 cases in 1899, and Brand now reviews those published since then, 45 in number; he also records for the first time 11 additional cases. Forty-six of these 56 cases had proved fatal (83 per cent.). In some the amount of sugar excreted was extraordinarily high. He remarks on the favourable effect of butter-milk diet in the affection.

ERNEST JONES.

Psychical paralyses in children (*'Monatschr. f. Kinderheilk.,' Bd.* v, *S.* 256).—**D. Durante** showed two cases of this nature before the Naples section of the Italian Society for Children's Diseases. The patients were both boys, one aged 2 years, the other aged 3 years. The paralysis concerned an arm in one case, a leg in the other. ERNEST JONES.

Case of diffuse muscular atrophy with very rapid course in an infant ('*Monatschr. f. Kinderheilk.*,' *Bd.* v, *S.* 251).—**C. Comba** read the notes of this case before the Bologna section of the Italian Society for Children's Diseases. The patient, a female child, showed the first symptoms at the age of 3½ months. The atrophy began in the lower extremities and rapidly spread to the arms, body and neck. Death took place from bronchopneumonia at the age of six months. Two female members of the patient's family had previously died in the same way in the first few months of life. As to the classification of the case, whether it belongs to the Werdnig-Hoffmann type or to the Mya-Luisadi type, the author reserves his opinion till after a histological examination. ERNEST JONES.

Glioma chiefly affecting the left brachium pontis ('*Intercolonial Medical Journal*,' *May* 20, 1907).—**Andrew** describes the case of a boy, aged 5 years, admitted for paralysed left arm and leg eight weeks after a fall. Intelligence was unimpaired. All tendon reflexes were more active on left side. Double Babinski and suggestion of ankle clonus on both sides. Paralysis of both external recti. No facial or lingual paralysis. The discs and fundi were normal, as was sensation. No headache or vomiting. Irregular ataxic jerkings, most marked in arm, occurred on voluntary movements. The leg was dragged limply although sometimes jerked. There was a tendency to fall to left side. Speech was normal. With no evidence of syphilis or tubercle diagnosis of glioma was made. Post-mortem showed a large tumour encroaching a little to the right of the midline ventrally and well into the left brachium pontis. The peculiar ataxia may be due to an involvement of an efferent tract from the fastigial nucleus via the brachium pontis to Deiter's nucleus. M. D. EDER.

Gastric ulcer in a child ('*Intercolonial Medical Journal*,' *May* 20, 1907). —**Leary** reports the case of a girl, aged 7 years, who had long had gastric symptoms: severe pain after meals often with vomiting, etc. She had a severe hæmatemesis, followed by tarry motions. There was no other source of hæmorrhage; no heart lesion or evidence of cirrhosis. M. D. EDER.

Pathology.

Cardio-vascular affections in congenital syphilis ('*La Presse Médicale*,' *May*, 1907, *No.* 43, *p.* 337).—**L. Landouzy** and **Laederich** publish an interesting case with illustrations and remarks on the general pathology of congenital syphilis and other hereditary diseases. The mother brought her child to the Laënnec Hospital, aged 2½ months, and covered with an eruption characteristic of secondary syphilis. The mother had a scar on the chin of three years' date, the result of a sore, which was followed by a sore throat and laryngitis; no treatment was adopted; she had only been pregnant once. The infant was nursed and for the first two months seemed healthy, having neither coryza, eruptions nor cyanosis, then an erythema developed on the buttocks. On admission the face, trunk and limbs were covered with a papular, copper-coloured eruption; the general state was bad. There were enlarged glands in the groins and axillæ, spleen slightly enlarged. Heart sounds muffled, no bruit, pulse feeble and rapid. Mercurial frictions were given, but the child died from pneumonia a week later. Autopsy: Spirochætæ in the papules of the skin and in the suprarenal glands, not found in the other viscera. Heart increased in size 35 grms., auricles globular, especially the right, ventricles empty; considerable hypertrophy of right side, apex formed almost entirely by right ventricle, aorta of small calibre. The mitral and tricuspid valves puckered and thickened and partly adherent to the intra-ventricular septum.

VINCENT DICKINSON.

Researches on the phagocytic power of the children's blood ('*La Pediatria*,' *March*, 1907, *p.* 161).—**G. Finizio** conducted these experiments in the Children's Clinic at Naples. The method used was that of Leishmann and Douglas, modified so that the leucocytes were not subject to centrifugation and washing, operations which might alter their biological activity, but were for the whole time in contact with the micro-organisms and immersed in their own plasma. A comparison of a case of a child with purulent pleurisy from *Staphylococcus pyogenes aureus* with that of another suffering from slight dyspepsia only partially confirmed the assertion of Wright, that in staphylococcic infection the opsonic index would be raised for all kinds of staphylococci, and specially for those taken from the subject under examination. Another experiment, which compared a child affected with acute broncho-pneumonia of streptococcic origin with two other children apparently healthy, showed that the index in all three children was lower for the more virulent streptococci and higher for those of less virulence, also that the phagocytic index was higher in the healthy children than in the sick one.

VINCENT DICKINSON.

The bacteriology of cerebro-spinal meningitis ('*Brit. Med. Journ.*,' *June* 22, 1907).—**Symmers** and **Wilson** give the cultural characteristics of the meningococcus as the result of their experience of the Belfast epidemic. Seventy-five cases were examined, either post mortem or by lumbar puncture during life. In fifty-two of these the organism was obtained from the spinal fluid; it was also found in three out of fifteen cases in which the blood was examined during life. The authors find that the following are the characteristics of the meningococcus: (1) The colonies, on a suitable medium (agar with ascitic fluid and peptone), are smooth, circular discs of a grey colour, which are translucent and closely resemble colonies of *B. coli communis*. When first seen the colonies are always discrete; (2) the colonies consist of cocci indistinguishable in size and shape from gonococci. In older cultures many organisms, spherical in shape and closely resembling staphylococci, are found; (3) the organism is negative to Gram's stain, although in every culture a few cocci are found which retain the stain; (4) the organism does not grow at 20° to 22° C.; (5) media containing dextrose and maltose are fermented by the growth, acid being produced, whereas galactose and saccharose remain unchanged. The meningococcus grows readily, but during the earlier generations *in vitro* sub-cultures should be made every day.

T. R. WHIPHAM.

Therapeutics.

Eczema in infants ('*Med. Press*,' *July* 3, 1907).—At the Académie de Médecine **Variot** stated that subcutaneous injections of isotonic sea-water exerted a rapid and favourable influence on infantile eczema, the treatment being entirely successful in three fourths of the cases. After the first two or three injections the eczema became inflamed, with abundant serous exudation, after which an improvement set in; the scales became detached, and a cure followed. Sometimes there is no reaction, and in such cases the improvement is almost instantaneous, and the lesions begin to pale on the following day. One ounce of sea-water is injected every two or three days, and according to the speaker no other treatment gives such favourable results.

T. R. Whipham.

Surgery.

Acute mastoiditis of infants ('*Arch. Gén. de Méd.*,' *February*, 1907, *p.* 2 9). **A. R. Salamo** has collected 146 observations of this condition for his thesis and gives here a brief review of it. Acute mastoiditis supervening on acute otitis is almost the only one met with in infants. The general symptoms are very variable, but the local signs are pronounced, and the diagnosis practically always rests on the latter. These, however, may be confounded with the signs of diffuse lymphangitis and of phlegmonous adenitis. Adenitis is difficult to exclude when, as is often the case, a purulent discharge may co-exist with excoriation of the meatus, the cause of both conditions being therefore present. When suppuration has occurred in the gland adhesion to the bone has usually occurred, so that it is difficult to define the gland. Its position is, however, lower than that of the swelling in mastoiditis. In case of doubt exploration will decide. In lymphangitis traction on the pinna evokes more pain than pressure on the apophysis. Broca has shown that Duplay's periostitis is usually accompanied by a true mastoiditis. The prognosis is less grave than in older children and the intra-cranial complications rarer.

Ernest Jones.

Apophysitis in growing children ('*La Presse Médicale*,' *April*, 1907 *No.* 34, *p.* 267).—**R. Romme** contributes an article on this subject to which attention has already been drawn by A. Hardivillier in his Thesis (Paris, 1907) and also by Prof. Lannelongue. These cases of apophysary osteitis are of undoubted practical interest. In any child who complains of his heel, or knee, or spine, the last thing to be thought of would be apophysitis, if attention were not especially drawn to this point, and from the point of view of treatment an exact diagnosis is important. Owing to the different time of ossification, these cases are seen at any age between nine and eighteen years; the most frequent are those involving the anterior tuberosity of the tibia, and which may be considered as typical of the others. Tibial apophysitis begins suddenly with pain in one or both knees, of variable intensity, but sometimes very acute. On palpation the pain is strictly localised to the anterior tuberosity, which is felt to be thickened. General symptoms are absent unless the condition, instead of remaining an hypertrophic osteitis leading to the formation of a hyperostosis, should begin to suppurate. Tibial apophysitis is easy to diagnose; other forms may not be so; for example, when the disease affects the posterior part of the os calcis. In this case the patient, usually a child of thirteen to fifteen years, may have been lame for some time with pain at the back of the heel; some improvement may follow rest and the administration of sodium salicylate, but the pain and lameness reappear, and now the posterior third of the bone is found enlarged and tender at the insertion of the tendo-Achillis. Usually the other side is also affected, but to a less degree. But the diagnosis from tuberculosis is always difficult; the age of the patient, the slow appearance of symptoms, variations in the pain, and its increase after walking, are symptoms common to both diseases. Hardivillier says that tuberculosis of the os calcis usually occupies the anterior part of the bone, that it does not lead to bony hypertrophy, that it is generally unilateral. The diagnosis of vertebral apophysitis is more easy. An abnormal and painful swelling is formed by the hypertrophied tuberosity of the spinous apophysis of the vertebra, the pain is strictly localised; the absence of contraction and curvature are sufficient to eliminate Pott's disease. Treatment is simple; in rare cases where suppuration occurs incision and curettage is necessary, but usually apophysitis does not suppurate, and rest with counter-irritants are sufficient to ensure quick recovery. VINCENT DICKINSON.

Mechanical supports ('*Pediatrics*,' 1907, *vol.* XIX, *p.* 291).—**C. D. Napier** discusses the principles of mechanical supports in the treatment of diseases of bones or joints, fractures or dislocations, and in certain injuries, defects and malpositions. A mechanical support is an aid only and not the whole treatment. The failure to realise this is constantly seen in the reliance of patient and doctor on an insole for flatfoot, and a brace or plaster corset for lateral curvature. Yet the exercise treatment for the latter is not always sufficient by itself. Artificial supports replace the natural support by muscles, which then become weakened from disease. If complete rest and fixation is not essential the muscles must be exercised. Brace weakness follows brace use. Prevention or correction of deformity must be carefully worked out when using a mechanical appliance, and in many cases nature must be assisted by such an appliance. The force must be applied in the right direction. The influence of growth on deformity must be remembered and the effect of the support on the rest of the body as well as on the particular deformity. No case should be entrusted to the sole care of an instrument maker. EDMUND CAUTLEY.

Spontaneous dislocation of the wrist ('*La Semena Med.*,' *April* 11 1907).—**Nicolini** reports the case of a boy who, when eleven years old, was noticed to have a spontaneous malformation of the left wrist. It caused no pain, nor did it prevent the child's apprenticeship to a tailor. Three years later, when he came under observation, there was found a forward dislocation of the wrist with outward displacement of the hand. A skiagram showed that there was some incurving of the inferior extremity of the radius so that its articular surface looked somewhat forwards. The first row of carpal bones was flexed dorsally in reference to the second row. The diagnosis was made of Madelung's spontaneous subluxation of the wrist (or, as it is sometimes called, late rickets). This condition occurs from twelfth to fifteenth year, and is said to be commoner in girls. According to Madelung repeated slight professional traumatism at this age is the most frequent cause The accident occurs especially amongst girls employed in washing, printing works, etc. Various other theories as to pathology are mentioned and discussed. Treatment in this case by fixing the wrist after reduction was found useless. In other patients operation has been resorted to—subcutaneous section of the palmaris longus muscles and other tendons, or by Duplay, cuneiform osteotomy, without any real improvement of the condition.

M. D. EDER.

Congenital cyst of the face ('*La Sem. Med.*,' *June* 26, 1907). —**Vegas** showed a child, a deaf mute, with a fluctuating tumour on the cheek, and acute left exopthalmos; this was so enormous that the eye almost projected from the palpebral fissure. Differential diagnosis established the tumour as a cystic lymphangioma with intra-cystic hæmorrhage. The cyst was sucessfully removed. M. D. Eder.

Infantile paralysis (*'Journ. Amer. Med. Assoc.,' vol.* XLVIII, *No.* 21).—**Babcock** describes a new method of treating this disease, when it occurs in the upper extremity, which he terms "trans-brachial anastomosis." The patient was a boy, aged 4 years, who had very extensive paralysis of the right arm and trapezius muscle. Owing to its severity it was found impossible to transplant one trunk of the brachial plexus into another healthy one. Both brachial plexuses, therefore, were exposed, and a bundle of healthy nerve-fibres was separated from the left sixth cervical trunk and cut across. A tunnel was next bored between the anterior cervical muscles and the trachea, and through this the bundle from the plexus on the left side was brought across the neck and sutured into the distal end of the atrophied corresponding trunk on the right. The child was seen three and a half months after the operation, when it was found that the left arm had not suffered in any way, and that the right arm was considerably improved, the change being most evident in the scapular muscles, the pectorals, and the extensors of the fingers. The improvement may be due to (1) the reduction of pressure in individual nerve-fibres from the splitting of the nerve-trunks, the compressed fibres being thus enabled to regain their function; (2) the occurrence of new anastomoses between normal and degenerated fibres; (3) the growth of new fibres from the sound brachial plexus into the other. The last is regarded as the most likely explanation. T. R. Whipham.

A new method of operating for cleft palate (*'Canadian Journ. of Med. and Surg.,' June,* 1907).—**Starr** points out that non-union along the line of closure in operations for cleft palate is often brought about by (1) tension along the line of sutures, (2) sucking of the stitches by the patient, and (3) infection from the mouth. To obviate the first two difficulties the author introduces a plate of aluminium, beaten out sufficiently to make it thoroughly pliable, through the lateral incisions and folds it so as to completely surround the flaps. After the muco-periosteal flaps have been freed and the edges of the cleft freshened, the aluminium plate bent at an angle where it is to fold over the outer side of one flap, is introduced through one of the lateral incisions. A pair of forceps is then passed through the opposite incision, and the aluminium plate is pulled through it into the cavity of mouth again. It is then carried across to the other side, and the excess cut off. The plate can be easily perforated at different points by a strong needle, and the ends tied together with horse-hair to prevent them irritating the tongue, or the free end can be turned up into the lateral incision again, and the edges pinched with a pair of forceps. The plate should be left in position for eight or nine days, when it is removed by cutting it close to the lateral incision. At the same time the stitches should be removed. Besides preventing tension and sucking at the stitches the aluminium plate prevents adhesion taking place between the muco-periosteum and the bone, until union of the edges has occurred. To avoid infection from the mouth the palate is sprayed with a solution of boric acid and 10 per cent. rectified spirit, which easily finds its way under the splint. The opsonic index should also be taken, and if it is low to the germs within the buccal cavity, injections of vaccines should be administered for a few days before the operation. T. R. Whipham.

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Original Articles.

NEPHRITIS IN INFANTS.*

By George Carpenter, M.D.

Membre Correspondant de la Société de Pédiatrie de Paris; Chairman of Council of The Society for the Study of Disease in Children; and Physician to the North-Eastern Hospital for Children, London.

Albuminuria in healthy infants during the first few days, and sometimes weeks, of life is not an uncommon occurrence. Cruse detected it 28 times in 90 observations, and his results were confirmed by Martin, Ruge and Pollack. Not only was albumin found, but also hyaline, epithelial and granular casts.

On the other hand one can affirm from one's own observations that the urine of newly-born infants is also often free from albumin and tube casts. I have found it so in many observations on one infant and in single observations on many infants.†

Since the above records were made other observers have been at work upon the subject of infantile urines.

In a paper entitled "Nephritis in New-born and Young Infants," ‡ E. Mendi examined the urine of 17 babies from ten to forty days old and found albumin, epithelial and hyaline casts. Fourteen infants had broncho-pneumonia; 6 of them had *scleroedema*—hardness and serous infiltration of the subcutaneous tissue more or less diffuse; and 8 *sclerema*—hardening and dryness of the subcutaneous fat. Two infants had more or less violent convulsions.

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* Read at the Provincial Meeting of The Society for the Study of Disease in Children, Bedford, June the 15th, 1907.

† "Notes upon the Urine of a Newly-born Infant," 'Reports of The Society for the Study of Disease in Children,' vol. i, pp. 160–163.

‡ 'Rivist di Clin. Pediat.,' 1903, p. 510.

The urine in 11 cases was "not much diminished in quantity," and in 6 it was scanty, and in some led to anuria; these variations bore no relationship to the sclerœdema.

Fry and Martin,* in a paper on "Infantile Nephritis," related their experiences. They examined the urines of 100 infants under three months old; three specimens were collected from each infant on different days, and the tests used were cold nitric acid and ferrocyanide of potassium and acetic acid. Nineteen cases had albuminuria; 6 were under ten days old, 5 were from ten days to a month, and 8 from one to two months.

Hyaline, granular, and a few epithelial casts were found in 17 of the 19 cases; but casts were found in 14 other infants whose urine was not albuminous. In 26 infants uric acid was abundant; 14 of these had albumin and casts, 1 had albumin only, 9 had casts only, and the remaining 2 were free from albumin and casts. Seven cases were examined post mortem and uric acid infarcts and parenchymatous inflammation were found. Three out of the 7 cases showed in addition interstitial nephritis. Six fatal cases had œdema of the face and extremities. These results were obtained from breast- and bottle-fed babies, and of the 19 cases of albuminuria 15 were artificially fed.

E. Bellico† examined the urines of 70 infants during the first year of life who were suffering from various complaints, and found in 23 of them renal complications. In 3 cases there was albuminuria only. In 4 he could find no albumin, but microscopically there were renal cells and tube-casts, and in 2 red and white blood-corpuscles. Apart from the microscopical evidence in these infants, there was nothing to suggest renal disease. Most of the cases occurred during gastro-intestinal disorders.

Dwight Chapin‡ found albuminuria in 75 out of 86 cases of gastro-intestinal disturbance in infants. In 15 of the cases there was a heavy trace of albumin. Esbach's test was used, which perhaps accounts for so large a proportion. In 37 there were hyaline, granular, and epithelial casts. Of 16 fatal cases 14 had albuminuria, and of these 10 had casts.

In 49 out of 57 cases of pulmonary disease there was albuminuria —a heavy trace in 6. Casts were found in 32. Of 17 fatal cases 15 had albuminuria, and 10 of these had casts.

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* 'Archives of Pediatrics,' vol. xxi, p. 19, January, 1904.

† 'Rivista di Clin. Pediat.,' 1905, No. 10, and 'Gaz. Med. Ital.,' 1905, No. 50, p. 498.

‡ "The Urine of Infants," 'Archives of Pediatrics," 1906, vol. xxiii, p. 329.

In 31 out of 45 cases of other general illnesses albuminuria was present. In 9 out of 11 cases of cerebro-spinal meningitis albumin and casts were found.

Chapin thinks that albuminuria and casts are produced by any disturbance of the bodily functions in infants, and are occasioned by congestion and irritation of the renal tubules. He attaches no special significance to the condition.

Still* found in 2 cases of infantile scurvy hyaline, granular and epithelial casts. While slight hæmaturia, if only to the extent of a few red corpuscles, is a frequent and very early symptom of scurvy in infants, I have not as yet met with evidences of catarrhal nephritis in this affection.

But these clinical observations of Mensi, Fry and Martin, Bellico, and Dwight Chapin appear to me to be somewhat remarkable in that they have found such a large percentage of infants with albuminuria and tube-casts.

In 62 cases of infants coming under my own notice, ranging in age from three weeks to eight months, and brought to the out-patient department for a variety of ailments, I found albumin in two only. One was a child, aged 1 month, brought because its mother's milk was failing. The other was aged 6 months, and pus cells and desquamated bladder-epithelium were found in the urine to account for the albuminuria. The infants examined were both breast- and bottle-fed, and they were for the most part suffering from minor ailments.

Passing now for a moment to the consideration of dropsy in infants, this is found chiefly at two periods—viz. in the new-born and during the first year or so, the age of gastro-intestinal disturbance. It in no sense differs from that met with in nephritis—it may be slight and confined to the back of one hand or the dorsum of a foot, or it may be general. In the latter case the features are swollen, the eyelids closed, the extremities and loins deeply pit on pressure, and the serous cavities contain free fluid. If the dropsy be slight the skin readily pits, but if the cutaneous tissues be very distended with serum the skin is shiny, and pitting is obtained with difficulty. Such a condition in a new-born child, by reason of cutaneous hardening and consequent stiffening of the limbs, may be mistaken for sclerema neonatorum.

It has been shown by a variety of writers, by Hutinel, Barthelemy,† Follet,‡ Rocaz,§ and L. F. Meyer,|| that albuminuria is rare in the

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* "Nephritis in Infantile Scurvy," 'Lancet,' August the 13th, 1904, p. 441.

† 'Gaz. Med. de Nantes,' 1904, p. 1033.

‡ 'Rev. Fr. de Méd. et de Chir.,' 1904, p. 1019.

§ 'Gaz. Hebd. des Sc. Med. de Bordeaux,' 1905, p. 532.

|| 'Deutsche Med. Wochenschr.,' 1905, p. 1464.

œdema of infantile gastro-enteritis, and with that view I am in entire accord.

Stöltzner,* in a communication on "The Œdemas with Albuminuria in Young Children," arrives at the conclusions that these œdemas are found to occur after acute infectious disease, or—especially in younger children—gastro-intestinal affections. That in their occurrence and characters they imitate exactly nephritis, and when the cases are examined after death inflammatory changes are always found. But this concluding assertion is certainly too sweeping, and I have observed several examples to the contrary. Thus, in a child, aged 8 months,† under my care, with a history of wasting since measles some weeks previous, œdema was extensive, and the urine albuminous but free from tube-casts. At the post-mortem examination the lungs were dropsical, with slight patches of broncho-pneumonia, the liver was a little fatty, the heart healthy. *To the naked eye the kidneys looked healthy*, and this was confirmed microscopically. The quantity of urine passed was small—some 4 or 5 oz. in the twenty-four hours. The urea averaged 4 gr. per ounce. Thus there was renal inadequacy in this case, but no nephritis. Renal incompetency with a scant secretion of urine is common in this condition.

Hutinel attributed the dropsy to retention of chlorides in the system, and his theoretical views have been confirmed experimentally by Heubner on an infant, aged 6 weeks. Each time chloride or phosphate of sodium were given the urine diminished and the body-weight increased. When the salines were omitted the flow of urine was augmented and the body-weight diminished. Examination proved that oliguria was invariably associated with retention of chlorides. At the autopsy the kidneys were found to be perfectly healthy. Two other cases reported by Meyer confirm Heubner's experiments.

In two recent cases under my care, one post-erysipelatous, the other ileo-colic, the chlorides were diminished. The urines were free from albumin, and in the latter case the œdema was extensive. In both instances there was renal insufficiency.

P. A. Potter ‡ states that the œdema can be cured by increasing the percentage of proteid in the milk. He recommends that the diarrhœa should be disregarded, the attention being directed to the proteids.

Rocaz having found traces of albumin in two of his cases inquires whether this inadequacy is not due to true kidney lesions, and whether they do not exist even where there is no albuminuria. This is, of course, quite possible, because it has been frequently proved that nephritis can be present without either albuminuria or tube casts or renal *débris*.

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* 'Gazette de Hôpitaux,' December the 28th, 1905, p. 1760.

† "A Fatal Case of Œdema associated with Albuminuria in an Infant Aged Eight Months," 'Reports of The Society for the Study of Disease in Children,' vol. iv, p. 132.

‡ 'Pediatrics,' 1904, vol. xvi, p. 129.

While allowing, then, that œdema in these cases *may* denote nephritis even in the absence of albumin and tube casts, it, on the other hand, must be recognised that the presence of albumin in the urine does not prove that the kidneys are inflamed. If there be neither albumin nor tube casts it is improbable that the kidneys are diseased no matter how extensive the œdema.

Œdema of the new-born takes origin in a variety of complaints. Thus it may be a sequel of erysipelas, and often is so; it may denote a failing heart, atelectasis and engorgement of the venous system in the weakly, the premature, and in those who have been brought into the world under unfavourable auspices; or it may indicate nephritis.

In older infants, in addition to the causes mentioned, it may be associated with tuberculous and simple lung disorders with leukæmia and pseudo-leukæmia, or be due to nephritis.

Referring to one's own clinical experiences and that of our countrymen there can be no doubt but that cases of nephritis do occur from time to time in the youngest infants, and with the usual objective signs of that complaint. It is also probable that in some the disease starts in intra-uterine life.

My first acquaintance with nephritis in the infant was made as long ago as November, 1889, in a syphilitic baby, aged 5 weeks,* who, while under treatment, developed extensive dropsy. The urine contained albumin and hyaline, epithelial, and blood casts. The infant was treated with mercury, but without benefit to the kidney trouble. The kidneys at the post-mortem *appeared healthy to the naked eye*, but the microscope showed obvious fibrous and catarrhal changes. About this time I also met with another example of pronounced dropsy in a syphilitic infant, aged 6 months. A catheter was passed but the bladder was empty, and the infant was not brought again. In relation to these observations it is not uninteresting to read that Henoch could never establish the connection of infantile renal disease with syphilis, though he advises that this should be borne in mind in view of a case successfully treated by mercury by Bradley.

Cassel † has studied the kidney changes in a number of cases of congenital syphilis, but of thirty-one syphilitic infants, six of them showed albumin in the urine and formed elements. Definite interstitial changes were found in the kidneys of five cases who had survived for some time after birth, in the shape of various sized cellular groups of infiltration in the cortex, and cystic degeneration of the glomeruli. In all there was proliferation of the adventitia of the interlobular arteries, consisting of polynuclear, mononuclear, eosinophile, and plasma cells. The process had in no case proceeded to the formation of connective tissue. Of seven specimens taken from syphilitic fœtuses, six showed inflammatory interstitial cellular proliferation, along with peri-adventitial infiltration. The interstitial changes displayed no features by which they could be distinguished from any other inflammatory process, but the peri-adventitial changes he regarded as of strong diagnostic import. Like Stroeba and Hecker, Cassel found evidences of retarded development in the kidneys of syphilitic fœtuses.

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* 'Syphilis of Children,' pp. 56, 57, 1901.

† "Nephritis in Hereditary Syphilis," 'Berl. klin. Woch.,' 1904, No. 2.

Both Coupland * and Stroeba † have recorded cases of acute interstitial nephritis in congenital syphilis, and in both of these cases *the naked-eye appearances were normal.*

Speiss also has collected thirty-four post-mortems of congenital syphilis, and of these ten had renal disease.

G. A Sutherland and Thompson Walker ‡ recorded an example of nephritis in a sixteen months old syphilitic infant. On one occasion, when there was retention of urine, the water was drawn off by catheter and found to contain a small amount of albumin.

Post-mortem.—The arteries at the base of the brain showed syphilitic inflammation. The cortex of the kidneys was densely infiltrated with round cells. The epithelium of the tubules was granular in appearance, and in many the lumen was filled with cysts of a homogeneous material or with masses of round cells. In the patches of dense infiltration the epithelium was shed and blocked the lumens of the tubules.

They also recorded another case of congenital syphilis that was examined in the post-mortem room—a girl, aged 8 months. The microscopical appearances of the kidneys were similar to those found in their first case, but the tubules were unaffected.

It is thus abundantly clear that congenital syphilis is responsible for at least some of the cases of infantile nephritis.

Owing to the trouble experienced in the collection of infantile urines, routine examinations of the water are not customary. Further, as extensive kidney disease may exist without dropsy, cases of infantile nephritis are very apt to be overlooked clinically. Not only is nephritis liable to escape detection at the bedside, but the kidneys of such patients readily pass muster in the post-mortem room, for it is a peculiarity of infantile nephritis kidneys—whether of syphilitic or simple origin—that they frequently *appear to the naked eye to be healthy*, even when they are extensively diseased. To these disadvantages must be attributed the paucity of the literature, not to the lack of material.

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* 'Path. Soc. Trans. Lond.,' vol. xxvii, 1876, p. 303.

† 'Centralb. f. Allg. Path.,' vol. ii, 1891, p. 1009.

‡ 'Reports of The Society for the Study of Disease in Children,' vol. ii, p. 134.

Though some cases of infantile nephritis are undoubtedly syphilitic, there are others that are certainly not so, and others that must be looked upon as doubtful. Thus Henoch relates the case of an infant, aged 5 weeks, who was dropsical. A catheter was passed with barren results. At the post-mortem examination there was diffuse nephritis associated with serous effusions into the pleura, pericardium, and peritoneum.

Ashby * records the case of an infant, aged 4 weeks, which became dropsical the day following its birth, and remained anasarcous to the day of its death, and finally died in convulsions. The kidneys were pale and showed but little difference between the cortex and the medulla. Microscopically there were extensive epithelial and fibroid changes, and the small arteries appeared thickened. There was no evidence of syphilis, although he thought that suggestion worthy of consideration, but to him it appeared to be of the "exact type of scarlatinal nephritis."

In the case of a syphilitic infant, aged 5 months, under my care,† the child was dropsical, and the urine albuminous and scanty. It contained hyaline, epithelial, and granular casts, and red blood discs. He was under observation for a month, and was treated with mercury. He finally sank and died. *To the naked eye the kidneys appeared healthy*, but microscopically there was patchy catarrhal nephritis. The small arteries in the neighbourhood of the glomeruli were thickened and their lumens diminished. The view I then held was that the nephritis was of syphilitic origin, though it is open to discussion whether the changes were of a syphilitic nature. The arterial changes were similar to those found in Ashby's case. There was no doubt, however, as to the child being syphilitic.

I have also had another example of nephritis in an infant, aged 5 weeks,‡ who was admitted into hospital under my care with a history of diarrhœa and vomiting. The infant was dropsical, and there was some free fluid in the abdominal cavity. The urine was albuminous; a microscopical examination was not made. He died five days afterwards. At the autopsy there was found some broncho-pneumonia and collapse. There was clear fluid in the abdomen with adhesions between the liver and the abdominal wall. The spleen was twice its natural size. The kidneys *were normal to the naked eye.* Microscopically there were interstitial changes in them, and the tubular epithelium was shed and necrotic. There also appeared to be some thickening of the small arteries, a feature observed in the other cases I have related. The supra-renal capsules were enlarged, and microscopically it was thought there were inflammatory changes. Section of the right capsule showed what appeared to be an old hæmorrhage. There was no history of syphilis, and no suspicion of that complaint apart from splenomegaly.

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* "A Case of Nephritis in a Newly-born Infant," 'Reports of The Society for the Study of Disease in Children,' vol. i, p. 129.

† "A Case of Syphilitic Nephritis in an Infant, aged 5 months," 'Reports of The Society for the Study of Disease in Children,' vol. iii, p. 286.

‡ "Interstitial Nephritis and Cirrhosis of the Supra-renal Capsules in an Infant Five Weeks Old," 'Reports of the Society for The Study of Disease in Children,' vol. vi, p. 258; 'Lancet,' November the 3rd, 1906.

This combination of parenchymatous and interstitial inflammation in infantile nephritis is apparently not unusual. It occurred in two of my cases, in Ashby's patient, in Sutherland and Thompson Walker's case, and three out of seven of Fry and Martin's post-mortems had the combined lesions.

In would appear, in the present state of our knowledge, that interstitial nephritis may be produced by toxins other than those of congenital syphilis. This is of interest from two points of view, viz. (1) the suggestion which has been made that the cirrhotic kidney is a syphilitic manifestation; (2) the possibility of the seeds of this disorder being sown in infantile life, and of the cirrhotic kidney being produced by intestinal toxins.

The correct interpretation of thickened renal arteries in the cortex is not obvious; perhaps they only denote a chronic nephritis.

In conclusion, it is abundantly suggestive that nephritis in infants is a much less rare condition than is commonly supposed to be the case, and that there is a large field for research work in this department of children's diseases.

THE PROBLEM OF THE DEAF SCHOOL-CHILD.*

By Macleod Yearsley, F.R.C.S.

Senior Surgeon to the Royal Ear Hospital; Medical Staff (Education), London County Council; Membre Correspondant de la Société Française d'Otologie, etc.

The problem of the deaf school-child is one which may be regarded from several aspects. Much has already been written upon the best method of segregating the deaf from the normal children; they have been classified according to the degree or the curability of their deafness, and much time has rightly been devoted to the best manner of educating those who are too greatly handicapped by their defective organs of hearing to benefit by ordinary methods. No doubt the last word has yet to be said with regard to all these matters before they can be dealt with to the greatest advantage, but so long as our calling of medicine continues and the science of school hygiene progresses there will always be last words to be spoken.

There is, however, one point of view from which the problem of the deaf school-child must be regarded that is of the highest importance. How are those children to be dealt with who, save for a certain degree of deafness, and especially of curable deafness, are otherwise to all intents and purposes perfectly normal? We are all agreed that appropriate education and special schools are needed for the congenital or acquired deaf-mute, those who combine deaf-mutism with mental deficiency, and those who, whilst they have largely lost the sense of hearing, have still a small amount of that sense remaining, which can be utilised to a certain extent by training. But what are we to do with those children in the normal State schools who are sufficiently deaf to be prevented from gaining all the advantage possible from the class teaching, and, above all, how are we to deal with those who, by reason of middle-ear suppuration, are not only losing the advantages of the education offered them, but are in actual danger of their lives?

That such cases do occur, and in a considerable percentage, is patent to every person of experience. Let me quote a paragraph from the London County Council Report of the Education Committee for the year ending March the 31st, 1906. After describing how the medical inspection of the schools is carried out, the report says: "Many of the children with offensive discharging ears have had this condition for months, and the parents cannot be induced to get them treated, and yet the condition is one of the most fatal of the chronic troubles of childhood. Many of the cases seen, and neglected or refused treatment by the parents, are either attending school or are excluded for months or years through parental ignorance or indifference, which at present we are helpless to prevent."

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* Read before Section IX of the International Congress of School Hygiene, August, 1907.

Thanks to the courtesy of the Medical Officer for Education, I am able to lay before you the following statistics:

The hearing acuity of a number of children was examined by means of the whisper test, and those who could not hear a forced whisper at twenty feet were classed as sub-normal; 1006 children, varying from eight to fourteen years of age, were thus tested, of which 439 were boys and 567 were girls; 131 boys and 168 girls failed to pass the test and were considered as sub-normal. The children were then separated into groups of mouth-breathers, partial mouth-breathers, and those who did not breathe through the mouth but had nasal respiration. In the *normal* class 96 boys and 104 girls were mouth-breathers, 24 boys and 18 girls were partial mouth-breathers, and 188 boys and 277 girls respired nasally. In the *sub-normal* class 80 boys and 80 girls were mouth-breathers, 13 boys and 11 girls were partial mouth-breathers, and 38 boys and 77 girls were nose-breathers.

As regards *discharge from the ears*, there were 2 boys and 12 girls in the *normal* class and 22 boys and 41 girls in the *sub-normal* class who had existing discharge. Besides this evidence of active mischief in 77 children out of 1006, there were signs of former discharge (cicatrices or dry perforations in the tympanic membrane) in 178. Of these 178, 46 boys and 27 girls belonged to the *sub-normal*, and 11 boys and 86 girls to the *normal* class.

No examination as to the percentage of adenoids was made, but 248 children had enlarged tonsils, namely—65 boys and 100 girls in the *normal* class, 36 boys and 47 girls in the *sub-normal* class.

It is not my intention to comment upon these statistics; I merely use them to demonstrate what may be considered as the average of untreated cases of ear disease and some of the conditions predisposing thereto in a State normal school.

The text of my paper is contained in the closing sentence of the quotation I have read from the L.C.C. Report; "Many of the cases . . . are excluded . . . through parental ignorance or indifference, which at present we are helpless to prevent." Parental ignorance and indifference form the keynote of the problem before us. Were it not for that, the solution would be obvious—let the children have skilled treatment. Unfortunately, this is precisely what it is at present not possible to do. Before it can be made possible we have to circumvent parental ignorance and indifference. My object, therefore, is to evoke discussion by throwing out suggestions, in order that we may arrive at the best method of saving the children from the results of this parental ignorance and indifference.

A few months ago I was chatting with a gentlemen from the north of England, who had gained some experience in these matters as chairman of an education committee. Speaking in all sincerity he told me that, in his opinion, the only way out of the difficulty was to take the children into State schools and put the parents in a lethal chamber. Such a suggestion is, perhaps, too Utopian for our present stage of progress, and we must find some other means which would be equally efficacious, more practical and less drastic.

Before making suggestions, however, it will be as well to review briefly the effect of slight deafness upon the school-child.

Perfect hearing is of the highest importance in the intellectual and moral development of children. A child at school requires to be on as good a footing as its class-mates in its efforts to acquire knowledge. Its activity should be as normal as possible. When it is hampered by deficient hearing or deficient sight it is immediately at a natural and obvious disadvantage. In exceptional cases this disadvantage may be counter-balanced by especial intellectual brilliancy, but such rare instances cannot be taken into consideration when discussing the average child. The usual result is that the child inevitably falls below the standard set by its class-mates, and gravitates to the bottom of the class. Statistics show that it is usually among the children at the tail of the class that deficient hearing is found, and further, that the worse the hearing the lower the child stands in the class list.

Now these are the cases that require recognition. These are the children that want help. The mentally deficient, the deaf-mute, and the very deaf are now adequately cared for in special schools, but we are not giving the attention that is needed to the cases of slight deafness that are to be found in fair numbers in our normal schools, and to those cases whose lives are in danger from chronic suppuration. It too often happens that the ineptitude shown by these poor children is put down to anything rather than its true cause. It is called "mental incapacity," or, worse still, "inattention." As a result they are unjustly punished or else allowed to become wastrels, so to continue through life. Even mothers of the better class, usually so keen in their observation of their own children, will overlook slight deafness and call it "inattention."

The normal child, properly fed and cared for, should have (due allowance being made for family peculiarities) an active mind and be keenly alive to the acquisition of all knowledge which interests it. Inattention, or the want of proper interest in its surroundings, when habitually exhibited means one of two things—mental incapacity or deafness. The two are easily distinguishable, and there should be no difficulty in determining which condition is responsible for habitual inattention. If it be slight deafness the child suffers great disadvantage from it in class. He experiences difficulty in following the teacher's explanations sufficiently to comprehend them, and consequently soon becomes discouraged and loses interest. The prolonged fatigue and resulting strain thus produced upon the mind necessarily weakens the latter, and the child's ineptness becomes more and more accentuated as the lessons become more advanced and more complicated.

These cases of slight deafness may be readily remedied in the vast majority of instances. Adenoids are responsible for a large percentage of all cases of ear disease. I do not think that I need go into this matter or that I need again point out the necessity for early treatment in chronic middle-ear suppuration, with the double object of preserving life and saving hearing. My province in this paper is to suggest a means of combating parental ignorance and indifference.

My suggestions may be divided into three heads: (1) Special legislation; (2) the organisation of special lectures for parents; (3) the appointment of special officers to deal with the neglectful parents.

In a country in which the good of the State is made subservient to vindictive party squabbles, it is difficult to speak of the passing of special laws to deal with so small a thing as the welfare of the Empire and the raising of the best type of citizen. Of course, the ideal solution of the matter would be the enactment of a law whereby children whose future fitness as citizens was imperilled by parental ignorance and indifference could be taken from their parents and cared for by the State. Unfortunately there is a fetish called the "liberty of the subject" which permits irresponsible, ignorant, and indifferent citizens to perpetuate many things harmful to the State, including the permanent disablement of their children by neglect. It is a fetish that permits the feeble-minded, the epileptic, and the habitual criminal to marry and procreate their degenerate kind, and until it is realised that this idol of the liberty of the subject is a cruel Moloch annually requiring the sacrifice of many innocents, it will bar the way of progress. There is not much hope at present for special legislation in this country so long as educated men give it as their opinion that it is within the right of parents to allow their children to become verminous and so continue.

It remains for us, therefore, to seek some other means of saving these unfortunates. My second suggestion is that of the organisation of lectures to parents by competent authorities. These would, no doubt, do much good to those who attended them, but I doubt very much whether parents whose ignorance and indifference are such that they neglect their children would either be likely to attend such lectures or benefit by them if they did. The majority of the parents who would take the trouble to listen to lectures designed to teach them their duty would be intelligent, worthy persons who honestly wished to learn.

A better result would, I think, be obtained by my third suggestion—the appointment of special officers. There should be appointed by the State, or by its Board of Education, or similar responsible body, an otologist whose duty should be to examine all children referred to him by the visiting medical officers of the schools. He should report upon their condition and this report should be communicated to the parents. A certain number of the latter would be grateful for this opportunity of doing their best for their children, and would take steps to have them adequately treated. Those who neglected this advice should be requested to interview the authorities, who would lay before them the serious nature of the trouble and endeavour to make them see the necessity of treatment without delay. This would reach a few, probably a very few.

The remaining parents, who would neither have their children treated nor come to discuss the matter, should be sought out by specially appointed visitors, who would endeavour to reason with them and gain them over by patient argument. This should save yet a few more children. How treatment is to be obtained, whether from hospitals or by the Education medical officers, is beside the present point; what has first to be done is to make the parents allow their children to be treated.

Beyond this, in the present condition of things I do not see how we are to go without special legislation. There will always remain a percentage of cases in which, to again quote the Medical Officer for Education, "we are helpless to prevent" the inevitable disaster which follows neglect and indifference.

The number of cases of parental neglect will, of course, show a steady reduction the more hygiene is taught in our schools, but this method is a slow process, and it will be several generations before it can bear fruit. What we require is some immediate measure which will save the present generation of slightly deaf school-children and those with suppurating ears from future incapability or preventable death. The saving of the former is an economy to the State, whilst the death of every State school-child from curable middle-ear suppuration is a crime to be laid at the door of the Government.

SIMULATION OF SOME OF THE SYMPTOMS OF PRIMARY AMAUROTIC IDIOCY BY A TUMOUR OF THE INTERPEDUNCULAR SPACE.*

By Edward Cecil Williams, M.B.Cantab.,

Physician to the Royal Hospital for Sick Children, Bristol.

The subject of the following notes—an illegitimate child—aged 15 months, was sent under my care into the Bristol Children's Hospital by Dr. McClelland, of Brislington, with the following history. Three months ago she began to fail taking notice of objects, was losing flesh and getting weaker. On admission, the child lay quite still and motionless, was somnolent and not disturbed by any noise, even though close to her ears. Her eyes were firmly closed and when the eyelids were opened she took no notice of her surroundings. When raised up in bed her head rolled either backwards or to one side. The arms were slightly spastic, wrist-joint flexed. There were slow athetoid movements of fingers. The legs were spastic, and when the patient was elevated from the bed her legs remained extended. Knee-jerks and plantar reflexes were exaggerated on admission, but later on the spasticity was decreased and reflexes nearly disappeared. Babinski's sign was present; sensation was diminished. A slow reflex could be obtained by stimulating the skin of the opposite leg with a pin. There were sub-crepitant râles at the base of both lungs.

Examination of the eyes.—Pupils moderately dilated and fixed. Right divergent strabismus. No fundal changes, discs and macula both being normal. The child died nineteen days after admission from œdema of the lungs and heart failure.

Post-mortem examination.—Body much emaciated. Rigor mortis not well marked. Lungs congested and signs of bronchitis. All the other thoracic and abdominal organs appear to be healthy. Brain extremely soft. At the base of the brain is a fungating, cauliflower-like, yellowish growth, about the size of a walnut in the interpeduncular space. The attachment of the tumour to the brain-substance is most intimate at the anterior portion of the interpeduncular space, and is apparently a growth of the pituitary body.

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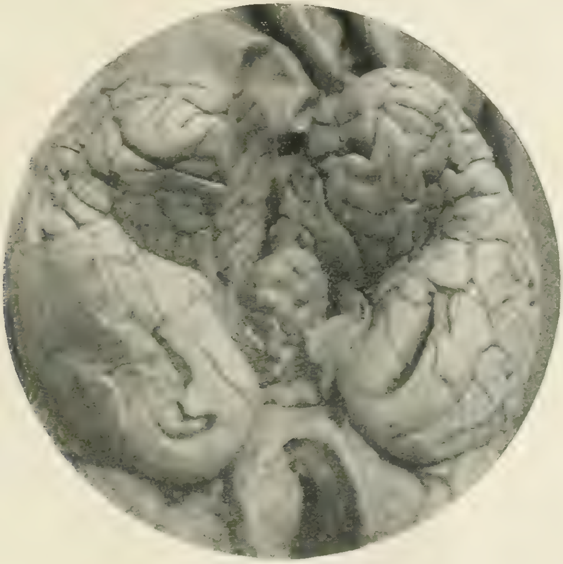
* Read before The Society for the Study of Disease in Children, April the 19th, 1907.

The growth is well defined and presses upon: (1) the optic chiasma; (2) crura cerebri; (3) anterior portion of pons; (4) floor of the third ventricle.



Photograph showing growth.

There is a small yellowish growth situated on the right superior parietal convolution about one inch from the middle line. It is of the same nature and invades the grey matter of the cortex for about a quarter of an inch. The lateral ventricles are very much distended with fluid. Microscopical examination shows the growth to be a round-celled sarcoma.

On admission it was thought possible that the case was one of primary amaurotic idiocy, as it exhibited several of the characteristic symptoms of that disease, viz.:

(1) Paresis or paralysis of the greater part of the body, which may be either flaccid or spastic.

(2) Reflexes may be normal, exaggerated or diminished.

(3) Diminution of vision leading to absolute blindness.

(4) Marasmus and a fatal termination.

The case did not, however, present the characteristic fundal changes, described in primary amaurotic idiocy, in the macula and disc. The child was not of Jewish origin. The progress of the case was more rapid than is usually the case in primary amaurotic idiocy, in which the symptoms usually begin earlier than in this case and the child lives longer. The symptoms in this case can probably be explained by the pressure exerted by the growth on the surrounding brain substance. I am obliged to Drs. Morris and Ridge, house-surgeons at the Bristol Children's Hospital, for the photograph of the brain and notes of the case, and to Dr. Fortescue-Brickdale for the microscopical examination of the growth.

BORIC ACID RASH IN A CHILD.

By John Allan, M.B., Ch.B.

In some text-books of materia medica it is stated that boric acid is never used internally, but I venture to say that this is not carried out in practice. In many cases in which pyuria is the chief symptom it is an invaluable remedial agent, and under its use the pus in the urine clears up with marvellous rapidity. Like many other drugs it is liable to produce toxic symptoms, and certain people cannot tolerate it. In some the drug can be administered in large doses without producing ill-effects, while in others the toxic symptoms supervene so quickly after the exhibition of the drug as to suggest an individual idiosyncrasy. The symptoms generally take the form of gastro-intestinal irritation, in which diarrhœa and vomiting are present. Intolerance to the drug may be exhibited in many other ways, and one of the rarer manifestations is the production of a rash.

In the following case the toxæmia was evidenced by the occurrence of a rash, and as the patient was a child, and as the rash simulated those met with in two of the exanthemata, the diagnosis was for some time uncertain.

W. M—, a little girl, aged 3 years, was first seen at the beginning of May. The mother stated that the child had abdominal pain which was severe when the child passed urine. The urine was said to be thick, and to deposit a ropy sediment on standing. A proper examination of the child could not be made, as she screamed when anyone went near her. Urotropine gr. iv thrice daily was prescribed. She was treated as an out-patient for a fortnight, but as no improvement was taking place she was admitted into hospital on May the 17th.

On examination the urine was found to be alkaline in reaction, and the specific gravity was 1022. Pus and a trace of albumin were present. Microscopically the presence of pus was confirmed; but no casts or blood corpuscles could be detected. Apart from the above there was little else to be made out. The temperature was just below normal. Abdominal examination was negative with the exception that there appeared to be slight tenderness on pressure over the hypogastrium. The child did not appear to have much pain during the act of urination, and micturition was not frequent. Two days later the bladder was sounded for stone with negative result. On May the 21st the child was put on pulvis acidi borici, gr. v three times a day. When tested a few days later the urine was acid in reaction, and the pus was much less in quantity. On May the 28th a rash appeared. It first came out on the abdomen, then it appeared on the chest, and finally on the legs and arm. The face and neck escaped. The rash was morbilliform in character, and very like that met with in measles. It consisted of reddish maculo-papules, slightly raised above the surface. On pressure it disappeared, leaving a blanched area, but quickly reappeared. For a day or two before the rash appeared the child was out of sorts. She was inclined to be drowsy, and was disinclined for food. There was pain in the epigastric region, but there was no vomiting or diarrhœa. There was no coryza, and the throat was not congested. There was no rise of temperature before, or coincident with, the appearance of the rash. Indeed, it was not till May the 30th, when the rash had been fully developed for twenty-four hours and was beginning to fade, that the temperature rose—a phenomenon in marked contrast to the general behaviour of the temperature in the exanthemata. On this date the temperature rose to 102·4° F., and remained up for thirty-six hours, after which it dropped to 98° F., and remained just below the normal line. The rash had quite gone by June the 1st. No brownish pigmentation was perceptible after the rash disappeared, and there was no subsequent desquamation. The drug had been stopped when the rash appeared, and it was not again given. The urine now contained the merest trace of pus and no albumin, and the reaction was acid. The child's general condition quickly improved, and on June the 6th she was discharged to attend the out-patient department.

Diagnosis.—The diagnosis in this case rests between a drug rash and measles, or German measles. Of the latter the case resembles German measles rather than measles. The rash closely simulated that met with in measles, and was very similar to the morbilliform rash met with in certain cases of rötheln. If measles the case must have been of a mild type. The onset, behaviour of the temperature, and course of the disease were not at all characteristic of a typical case of measles, nor (to a less extent) of rötheln. But the occurrence of atypical varieties must always be kept in mind. The site at which the rash first appeared and the distribution of the rash are significant, though not conclusive points. Absence of desquamation is a fairly strong point against measles, but is of much less significance with regard to German measles. The presence of Koplik's spots in measles, and the presence of enlarged cervical glands in the posterior triangle of the neck in German measles, are so constant that their absence (as in this case) are points to be noted in differential diagnosis. A history of exposure to infection was negative, but that statement has to be accepted for what it is worth, and too much stress cannot be laid on it. However, the fact that no further infection occurred in the ward is a strong point against the exanthemata. It is hardly conceivable that a child suffering from measles or German measles could have been in a ward with fifteen other children all under four years of age during the period of infectivity of these diseases without an epidemic occurring. The fact that only one of these children had had measles previously lends itself as an additional argument against the infectious nature of the case above described.

After all points have been carefully considered it seems reasonable to conclude that the rash was a toxic one following the administration of the boric acid. Be that as it may, the drug served the purpose for which it was given, and demonstrated its value in a case of an alkaline urine loaded with pus.

A CASE OF BILHARZIA IN A BOY, AGED ELEVEN YEARS.*

By Henry Skelding, B.C.,

Surgeon to the Bedford County Hospital.

F. F—, aged 11 years, came to the Bedford Grammar School from Umbali, in Rhodesia, in October, 1906.

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* Read at the Provincial Meeting of The Society for the Study of Disease in Children, at Bedford, June the 15th, 1907.

He was first seen March the 2nd, 1907, when he developed measles. During the attack my attention was drawn to the very deep sleep he was always in when I called, either morning, afternoon, or evening.

The nurse told me that he was with great difficulty aroused, and that after he had taken nourishment he fell again into heavy slumber. He complained of no pain, uneasiness or inconvenience, and when he was awake was quite rational, although unless roused he appeared as if he had been drugged.

This state of torpor gradually diminished, and finally, at the end of three weeks, he regained his normal condition to a certain extent.

On the fifth day after the development of the complaint the nurse drew my attention to the condition of his urine, which was cloudy and contained a very considerable quantity of blood of a bright red colour, with little deposit. This, the first specimen, was unfortunately thrown away. The next specimen contained much less blood, but was cloudy, and had on settling a stringy muco-gelatinous deposit, which on examination showed the eggs of *Bilharzia hæmatobia* in clusters and very numerous.

In the first instance I looked upon it as a case of hæmaturia due to the attack of measles, but on questioning the boy whether he had anything the matter before he came to England he said he passed some blood, but little notice was taken of it as "a number of people, especially the 'niggers,' had it." That at once suggested bilharzia to me.

Since his attack of measles he has been constantly under observation. I have noted the following: He has a pale, leaden colour of skin, with slight flush, the skin being dry and appearing as if dusted with flour. He is unable to take any great exertion, a walk of two miles fatiguing him.

The temperature is slightly raised in the morning to 99° F., becoming subnormal at night—97° F. Every ten to fourteen days he begins to feel uneasy, the temperature rises to 100° F., and he passes more blood. [June the 18th : He has one of these attacks just now.]

When he passes urine the first is quite clear, then commences the thin streaky condition, and the last few drops are bright blood.

This condition is, I believe, symptomatic of the disease.

There is only occasionally pain, and that at the end of micturition. There has been no swelling of the feet or any rectal symptoms.

The ova are well shown under the microscope.

Mr. C. G. Johnson, who kindly examined several specimens for me, on one occasion, in a fresh specimen, saw the free embryo swimming about.

Treatment.—As little exercise as is possible whilst allowing him to resume work at school. No games, and nothing in any way to fatigue him. Light simple diet, as for mild cystitis. Under this he has much improved.

The disease is scarcely mentioned in any of the well-known works on children's diseases. There are two short accounts in Patrick Manson and Clifford Allbutt's 'Medicine.'

The mistaken idea that the embryo gets into the bladder through the penis appears prevalent, for the natives tie a string round that organ when crossing a river.

As I stated, I can find no record of definite treatment amongst children. But it seems rational to treat the symptoms as for mild cystitis, and try to prevent the sequelæ of such a condition, viz. calculus, and nephritis. The embryo is said to be more frequently found in the blood portal system.

The following remark made by Guillemard in 'Allbutt's System,' seems to warrant particular attention being paid to this disease by scientists. He says: "The prognosis is less favourable in adults than in that of boys, *and on the whole the probability is that the patient will never be a perfectly sound man again.*"

Editorial.

ALCOHOLIC CIRRHOSIS OF THE LIVER IN CHILDREN.

The question as to the frequency of this occurrence is again raised in an urgent manner by some coroners' inquests recently held in London. In the past few weeks we have to note the following: In Wandsworth, an inquiry into the cause of the death of a female child, aged three years, disclosed the facts that advanced alcoholic cirrhosis of the liver was present, and that the child had died from acute alcoholic poisoning through drinking two and a half ounces of neat gin. Just previously the Lambeth coroner had had to deal with the cases of two brothers, aged five years and three years respectively, who died within a few weeks of each other from cirrhosis of the liver, probably of alcoholic origin.

Most of us have seen similar cases to these, and hardly a year goes by in a large children's hospital without the occurrence of several cases, though they are not always fatal. It is certain, further, that the condition is often overlooked, especially in younger children; for it is one that is not prominent in the minds of medical men, and is also very liable to be confused with tubercular peritonitis, adhesive pericarditis, and other affections. For the following data we rely on the paper of Dr. Ernest Jones that appeared in the January and February numbers of this JOURNAL, as it is perhaps the most complete review of our knowledge of the subject up to the present. He has collected from the literature some three hundred cases of cirrhosis of the liver in children. Of these less than a hundred were of the portal type, as the commonest variety was the pericarditic pseudo-cirrhosis. Of these hundred, seventy-four gave a history of alcoholism, though of course it cannot be asserted that alcohol was the sole factor in them. He concludes however that alcohol is, in children, as in adults, the most important clinical cause of true hepatic cirrhosis. There is a certain amount of evidence to show that the action of alcohol may be an indirect one, by favouring the production of various intestinal toxins, rather than a direct one on the liver. Still, this is at present an academic matter, the practical point being that if alcohol had not been ingested most of the cases would not have occurred. Alcoholic cirrhosis is rather commoner in boys than girls, in the proportion of four to three. The age at which it most frequently occurred was between six and nine, but a fifth of them occurred below the age of five. It is not reassuring to find that the percentage of cirrhosis in children is two and a half times as high in England as in Germany.

Now all these lamentable facts are very disquieting, especially as we know that they greatly under-estimate the extent of the evil, for only a small proportion of the cases get published. It is deplorable enough to contemplate the ravages of chronic alcoholism in our adult population, but it surely ought to be possible to prevent them amongst children; let us therefore inquire more precisely into the cause of the evil. The commonest source, which operated in over half the cases, was administration by the parents. They usually did so with the best intention—that of improving the general condition of a child suffering from "debility" or minor ailments. The second commonest source of the alcohol was the medical practitioner. In over a quarter of all the cases it was originally prescribed by the medical attendant, with such vague instructions that the parents continued the habit, with disastrous results. In three of the cases a medical practitioner specifically ordered an increase of the habitual alcoholic beverage, with the idea of treating the malnutrition due to the unrecognised cirrhosis. In only a few of the cases was the alcoholism due to infantile dipsomania or to force of example from drunken parents.

Now the disquietude that this state of affairs reveals has a very special relation to the medical profession. It cannot be denied that on our profession lies the direct responsibility for most of these unfortunate occurrences. Of the negligence displayed in the indiscriminate advocation of "a little port wine"—no precise dose and duration of treatment being prescribed—we need hardly speak, though unhappily it is even to-day only too frequently to be found. Such negligence cannot be too strongly condemned, for the evil results, both direct and indirect, are sufficiently obvious to any well-informed medical practitioner. Another aspect of the question is however not often realised. How comes it that parents so generally accept the current opinion that "anæmia," "debility," and the like are benefited by alcohol, and especially those forms of alcohol such as stout and port wine, the colour of which most nearly resembles blood? What efforts is our profession making to countenance this absurd and harmful delusion? How many members of our profession actually entertain this delusion even yet? It may be said that the remedy lies in education on these subjects in the schools. True, but the relative indifference of our rulers to most subjects of public health is, if not excusable, at all events comprehensible on the score of their ignorance of the issues at stake. No such plea can avail in regard to our profession, for incontestably knowledge brings responsibility and on us lies the burden of bringing these matters home to the public at large. Every practitioner to-day who administers alcohol to a child, except under rare and very temporary circumstances, when it should be prescribed as a drug and if possible in a disguised form, is not only acting in defiance of the conclusions established by scientific medicine and physiology, but is helping to create, or at least to support, that popular belief in the value of alcohol in ill-health which has so many disastrous results. This consideration should ever be present in our minds, for the influence of a united medical profession consistently used against the parental administration of alcohol to children could not be overestimated. We cannot and should not avoid our direct responsibility in this matter, and the more manfully we face our plain duty in these directions, the more powerful will the influence of our profession become, and the higher the esteem in which it is held by the State.

Abstracts from Current Literature.

Medicine.

Two cases of meningitis cured by lumbar puncture (*'El Siglo Médico,' July* 27, 1907).—**Juarros** records the two following cases: A boy, aged 8 years, had been ill with fever for some days, after complaining of severe pain in the right ear. He was restless, the pupils contracted and not reacting readily to light, Kernig's sign not well marked, irregular respiration, paresis of the left side of face and left arm, frequent vomiting and obstinate constipation. Some days later by lumbar puncture 25 c.c. of purulent liquid were removed. The temperature fell and the symptoms improved. Three more punctures were made, removing 30 c.c., 40 c.c., and finally 31 c.c. of a clear fluid; eight days later the child was perfectly well. Nothing abnormal was found in the ear; the diagnosis made was suppurative ventricular meningitis. The next case was a boy, aged 8 years, whose three brothers had died of tuberculous meningitis. There was a contracture of right foot due to cured tuberculous arthritis. He was taken ill with fever, became apathetic, slept little and complained of much headache. There were vomiting and constipation, the reflexes normal, strabismus, pupils irregular and tardy in action. A diagnosis of tuberculous meningitis was made; 40 c.c. of clear liquid were withdrawn on the sixth day after onset by lumbar puncture. Great improvement; the apathy, however, remained, and two days later another 40 c.c. were removed. Five days later the child was completely well. M. D. Eder.

A case of Parrot's pseudo-paralysis (*' Brazil Medico,' July* 22, 1907). —**Moncorvo Filho** reports a well-marked case of this rare affection. A baby, aged 23 days, was brought to him with a history of having some paralysis of right arm ten days after birth which soon extended to the whole limb; a few days later the left arm was affected and there was some difficulty in moving the left leg. On the slightest movement there was evidence of extreme pain. The child was well nourished. The father confessed to syphilis three years before marriage, and the mother had had two miscarriages. The absence of movement was manifest; there was, however, limited movement in the fingers. There was no muscular atrophy and the electrical reaction was normal. There was epiphysial dislocation of the articulations; at the left elbow marked crepitation like a fracture. There was an enlargement of all the articulations. Mercurial inunction removed the most urgent symptoms in ten days. Movement was restored, the articular swelling had subsided, and the child had no suffering. The writer's father had recorded nine cases of this disease in Brazil, where it seems less uncommon than elsewhere. He believes the prognosis is more favourable than was maintained by Parrot, who stated: "Presque toujours la terminaison est fatale." M. D. EDER.

Is menstruation an indication for weaning? ('*St. Petersburger Medicinische Wochenschrift,*' *July* 27, 1907).—**Keilmann** introduced this question at a meeting of the Livonian Medical Society. Menstruation, he said, was generally regarded as an indication to wean the child. He believed that early or late *post-partum* menstruation depended upon the mother's general condition; the earlier the mother menstruated the better was this condition; suckling should then undoubtedly be continued as long as sufficient milk was secreted. Menstruation *per se* was absolutely no reason for weaning the child. Experience further teaches us that the child can thrive even should the mother be again pregnant, and no harm accrues to mother, child, or embryo. This view was vigorously combated in the discussion that followed, many contending that the mother could only properly nourish one other organism, either the child or the embryo. **Tantzscher** agreed with the opener that the child could be profitably suckled so long as there was sufficient milk and it had no colostric properties. M. D. EDER.

Enteritis and appendicitis in childhood ('*Arch. de Méd. des Enf.,*' *April*, 1907).—**Comby** comes to the conclusion that there is a direct causal relationship between enteritis and appendicitis in childhood, muco-membranous entro-colitis being the form that most often causes appendicular lesions. The connection between the two is rendered probable by the facts that the appendix is not so much an adjunct as a prolongation of the colon and that the structure of both is identical. In muco-membranous enteritis the inflammation attacks the lymphoid tissue of the large bowel, so that involvement of the lymphoid tissue of the appendix can easily occur. Appendicitis in children is most often a chronic disease and heals spontaneously in the majority of cases. It is frequently a sequela of infectious processes in the alimentary canal, and like entero-colitis is often preceded by attacks of naso-pharyngitis and by adenoids. These conditions, therefore, may mark an early stage of intestinal and appendicular infection. As prophylactic of appendicitis, the dietary of children should be carefully regulated so as to avoid enteritis, but if the latter does occur it should be carefully treated. Naso-pharyngitis and adenoids also should receive attention, inasmuch as lesions of the alimentary tract and appendix frequently follow.
T. R. WHIPHAM.

The mode of spread of the meningococcus ('*Scot. Med. and Surg. Journ.,*' *July*, 1907).—In the report of their inquiry into the mode of spread of infection during the recent epidemic of cerebro-spinal meninigitis at Leith, **Fraser** and **Comrie** agree that though children are most frequently attacked, they seldom serve to transmit the disease. The authors examined bacteriologically the naso-pharynx of patients and of those who had been in intimate contact with them, and found the meningococcus present in 15 and 14 per cent. respectively. In the case of the contacts the organism was found in 33 per cent. of the fathers, but in only 9 per cent. of other relations. The Leith outbreak affected the families of dock-labourers, and it is noticeable that of the fathers examined one third were employed in overhauling the same ship, and that the organism was also recovered from the air in the engine-room. The authors come to the conclusions, (1) that dusty, ill-ventilated atmospheres, which provide conditions favourable to the growth of the meningococcus and to the occurrence of naso-pharyngeal catarrh, are often associated with the dissemination of epidemic cerebro-spinal meningitis; (2) that the high proportion of fathers whose naso-pharynx was found to contain the meningococcus suggests that they are the carriers of the disease to their children; (3) that the chief incidence of the disease in the Leith epidemic was among children of the lower classes, a point in favour of naso-pharyngeal infection; (4) that infection of the naso-pharynx is an important factor in spreading the disease; (5) that it is advisable to isolate all contacts, and to carry out a bacteriological examination of the nose and pharynx.

T. R. WHIPHAM.

Pigment spots in Mongolian children (*'Arch. of Pediat.,' June*, 1907).—**Brennemann** describes the occurrence of pigmented patches in the sacral or sacro-gluteal region in the infants of the American negroes. They are found in nearly all Mongolian children, and consist of one or more well-defined blue or greyish-blue spots, varying in size from that of a small coin to that of the hand. They are present in 97 or 98 per cent. of these children up to two and a half years of age, and in 10 to 12 per cent. after four years, but they rarely persist after the fifth year. The condition was formerly considered to be a racial characteristic of the Mongolian, but Adachi has shown that it occurs, though more rarely, in the children of other races. The author examined forty negro children under one year of age and found well-marked spots in thirty-five; in older children it is difficult to decide whether the spots are present or not. He considers this pigmentation to be a persistence, in a rudimentary form, of what was once a more widespread and functional layer of pigment such as exists in some of the apes, but why it should favour the sacro-gluteal region when there is no such tendency in monkeys he is unable to explain. At all events these patches can no longer be considered as exclusive race characteristics.

T. R. WHIPHAM.

Relapses of diphtheria and measles (*'Le Progrès Méd.,' June* 22, 1907).—In **Barbier's** experience a relapse in diphtheria or the lighting up of a latent diphtheria is liable to occur if measles or one of the eruptive fevers supervene soon after the original attack or exposure to infection. Measles seem to be especially instrumental in bringing about such a result, even though prophylactic injections of antitoxic serum have been given in those cases which have been exposed to infection of diphtheria. The author consequently advises that if measles occur in a patient, convalescent from diphtheria, within two months of the attack, a further injection of antitoxin should be given immediately. If measles break out in a family or an institution whose members have been previously exposed to diphtheria, further prophylactic doses of antitoxin should be at once given, notwithstanding the fact that such had been administered within three weeks—the usual period of protection ensured by prophylactic doses.

T. R. WHIPHAM.

The significance of the throat affection in cerebro-spinal meningitis (*'Med. Press,' September* 4, 1907).—**Westenhoeffer** is quoted as saying at the Hofeland Society, Berlin, that it was now generally recognised that in cerebro-spinal meningitis the tonsillar affection was the primary one. The disease might easily escape observation, as the inflammation was often situated in the upper part behind the velum palati and not on the tonsils themselves. The throat, therefore, should be examined in all suspicious cases. Pneumococcal and streptococcal meningitis originated in the nasal passages, but not the meningococcal nor the tuberculous forms of the disease. All attempts to eliminate the disease by means of gargles and douches for the nose and fauces proved unsuccessful, and even removal of the tonsils was not followed by any good results; in connection with the latter it must be noted that a large bleeding surface only made more room for the organisms to enter. The throat affection was present during the first days of the disease only as an intense redness and œdematous swelling, and disappeared very quickly. The germs entered with the respired air and settled on the first suitable spot, the infection being spread by means of expectorant material. In spite of the fact that 90 per cent. of these cases occurred in children the disease was not spread by them, as they did not expectorate. The source of infection was the sputum of infected adults. The epidemiological significance of the naso-pharyngeal affection lay in the fact that in all cases the meningococcus could be found in the naso-pharynx. Lumbar puncture was useful in some cases, but in others not. It only mitigated the symptoms. Meningococcus serum had been recommended in the acute stage, but the views were varied as to whether it should be used subcutaneously, or by the rectum or spinal canal. The last-mentioned method of procedure was the most likely to bring about a beneficial result. When the disease had advanced to the second stage, cerebral surgery was preferable to the injections of serum, and the author showed how by trephining in two places the descending cornu could be drained.

T. R. WHIPHAM.

Chlorosis in infants (*'Zentralb. f. Inn. Med.,' No.* 30, 1907).—According to **Leenhardt** chlorosis occurs in the earliest years of life. He has observed sixteen cases in children between the ages of twelve and eighteen months, the resemblance to the form of anæmia met with at puberty being often quite obvious. The patients are very pale, but normally developed and generally in a good state of nutrition. With the exception of cardiac murmurs and murmurs in the vessels of the neck nothing abnormal can be detected. The liver, spleen, and lymphatic glands are of normal size. Usually there is constipation. The red and white blood-corpuscles are normal in number, both relatively and absolutely, but the hæmoglobin is greatly deficient. The resemblance to chlorosis of later life is heightened by the fact that a rapid improvement takes place under treatment with iron.

T. R. WHIPHAM.

Two cases of acute miliary tuberculosis following laryngeal intubation (*'Giorn. Internaz. delle Scienze Mediche,' April* 15, 1907, *anno* XXIX, *p.* 296).—**Arturo Primavera** first discusses in general the question of the importance of trauma as a factor in the causation of tuberculosis. He then describes in detail two cases in which intubation was practised for diphtheria. The patients were girls, one aged 5 years, the other 14 months. They both died within a month's time. Post mortem the signs of acute miliary tuberculosis were found, and in both cases a large caseous mass was present in the larynx. This was the most advanced lesion, and Primavera considers it was the primary lesion probably induced by the trauma of the intubation.

ERNEST JONES.

Sudden death in typhoid fever in children (*'Arch. Gén. de Méd.,' année* LXXXII, *p.* 2393).—**Brelet** gives a general review of this subject with bibliographical references. He has collected thirty cases from the literature and considers that they are less rare than is often thought. Many times the diagnosis of typhoid had not been made before death, and in some cases the child was not even known to be ill. However, as a rule the accident occurs in the third week. Meningeal hæmorrhage and heart failure are the two commonest causes.

ERNEST JONES.

Catalepsy in young children (*'Centralb. f. Kinderheilk.*, Jahrg. xii, S. 1).—**Hecker,** after a short description of the phenomena in catalepsy, mentions its rareness in young children. The only cases on record were published by one author, Epstein, eleven years ago. **Hecker** relates the case of a boy, aged 3½ years, who was well till a year ago, when he suffered from measles and broncho-pneumonia. Since then he had been chronically ill with recurrent attacks of diarrhœa. There were no abdominal signs beyond slight tympanites. The child cried when examined, but otherwise lay motionless and without interest in his surroundings. He looked stupid, but obeyed simple commands. Spasmus nutans was present, without, however, nystagmus. Typical cataleptic manifestations occurred when the child was handled, but not spontaneously. **Hecker,** in discussing the pathology of the condition, points out its purely psychical nature, it being definitely a manifestation of hysteria. He rightly considers that the gastro-intestinal disturbance, which disappeared on admission to hospital, was not concerned in the production of the catalepsy.

ERNEST JONES.

Leukæmia with leucopenia (*'Gesellschaft f. Innere Medicin u. Kinderheilk. in Wien. Centralbl. f. Kinderheilk.,'* April, 1907, S. 140).—**Sluka** showed a patient, a girl aged 9 years, who had been getting paler for four months. General enlargement of the lymphatic glands had appeared a few weeks previously, and multiple petechiæ were present. The anæmia resisted all treatment. The blood examination gave: red corpuscles 2,684,000, colour index 0·65, leucocytes 2000, lymphocytes 91 per cent., polymorphonuclears 0·5 per cent. The lymphocytes were larger than usual. The diagnosis was acute lympatic leukæmia, of the variety called by von Türk alymphæmic lymphomatosis.

ERNEST JONES.

Aortic stenosis in a child (*'New York Acad. of Med.,'* section on Pediatrics, March 8th, 1906; *'Med Rec.,' October* 27, 1906, p. 674).—**John Howland** showed a patient, a girl of 11, whose heart condition was discovered during routine examination in school. The physical signs were marked hypertrophy of the left ventricle, intense diffuse systolic thrill, greatest at the second right space. Two murmurs were present, both systolic, one at the right base, the other at the apex. There was pulsus tardus. Aortic stenosis is excessively rare in children, the congenital cases being incompatible with life. ERNEST JONES.

The problem of infant feeding ('*Medical Record,*' *June* 22, 1907, *p.* 1022).—**Professor Heubner** (Berlin) has a short article describing two cases which illustrates some of the difficulties in infant feeding. In urging the all-importance of breast feeding he says that the two factors in making a breast function well are the stimulus of sucking and good nourishment for the mother. When the first of these is deficient, as in the case of premature birth, he recommends the temporary engagement of a wet nurse *with her child.* The mothers then change children for a while. If this is not possible a breast pump should be used. **Heubner** is emphatic on the question of premature weaning. He recognises no contra-indication whatever to breast feeding except the presence of tuberculosis in the mother. He has allowed a mother to breast-feed her child throughout an attack of typhoid with mutual advantage to both. With high pyrexia he advises only a temporary discontinuance of breast-feeding. ERNEST JONES.

Spasmophilia ('*Pediatrics,*' 1907, *vol.* XIX, *p.* 391).—**J. Zahorsky** includes tetany, carpal spasm, carpopedal spasm, laryngospasm and eclampsia, under the name of spasmophilia. He defines it as a diseased condition of infancy, which is characterised by hyper-excitability of the nervous system to mechanical and chemical stimuli, and dependent on some degree of malnutrition. The tendon reflexes show no change. Sometimes the disease is latent. It has its origin in the diet. Sabbatini has shown that a diminution of lime in the cerebral cortex increases the nervous excitability. Possibly the nerve-tissues as well as the bones suffer in rickets. Finkelstein discovered that the electrical excitability of the nervous tissues could be quickly diminished by substituting some cereal for cow's milk in the diet. Laryngospasm usually ceases abruptly. He has been corroborated by others. He also found that the harmful effect is in the whey, not in the casein, fat or sugar. Many writers assert that the cooking of milk leads to rickets, but Variot asserts that no nutritive disorders follow even sterilisation by prolonged boiling. Zahorsky found that most of his cases of spasmophilia had been fed on condensed milk for a long period. He is not opposed to giving fresh clean cow's milk to these patients. EDMUND CAUTLEY.

Infantile mortality ('*Pediatrics,*' 1907, *vol.* XIX, *p.* 399).—**C. Harrington** publishes a long paper on dirty milk as the principal cause of infantile mortality. His statistical observations reveal a lamentable waste of infant life in the United States. Of European countries Russia stands highest and Germany second in the rate of infantile mortality. It depends mainly on artificial feeding and diarrhœal diseases. Next in importance comes congenital debility. After considering the seasonal incidence, influence of method of feeding and class mortality, he passes on to insanitary dairying, poisonous and infective milk, and the remedy. Breast-feeding holds the most important place. Heat affords a certain amount of protection when properly applied to cow's milk, but is a mere palliative. Steps should be taken to ensure a clean milk supply by the abolition of the milkman, and possibly an increase in the price of the milk would be necessary to make such a supply commercially possible.

EDMUND CAUTLEY.

The reducing power of urine after urotropin (*'Arch. of Pediat.,'* 1907, *vol.* XXIV, *p.* 275).—**I. A. Abt** finds that the administration of urotropin for some time will cause the urine to reduce copper solutions. The urine does not show the fermentation test or act on polarised light. The continued use of the drug may give rise to albuminuria, with blood and casts.

EDMUND CAUTLEY.

The weight of breast-fed infants (*'Arch. of Pediat.,'* 1907, *vol.* XXIV, *p.* 321).—**J. P. Crozer Griffith** and **J. Claxton Gittings** publish the results of careful observations on the birth weight and its variation in the first two weeks of life. A table of the weights recorded by other observers shows that the average weight of boys varies from 2527 to 4000 grms.; of girls, from 2423 to 3795 grms. The writers found that the average weight of 111 normal boys was 3494 grms., and of 115 girls 3418 grms. Combining these figures with those obtained by others, the average weight of boys may be considered to be 7 lb. 10 oz. (3458 grms.); of girls, 7 lb. 6 oz. (3345 grms.). Infants from 6 to 9 lb. in weight may be regarded as normal. The heaviest infants are born of mothers between twenty-five and twenty-nine years of age. The children of multiparæ weigh more than those of primiparæ. Robustness and health of the mother affect the initial weight of the child. In the majority of infants the minimum weight is reached on the third or fourth day, and the initial weight is regained by the tenth to the fourteenth day. The total average loss is 7 to 8 oz., or one fifteenth to one seventeenth of the body-weight; it varies from 3 to 12 oz. Boys lose less than girls, and regain the original weight sooner. The heavier the full-term baby the greater will be the initial loss. In general the children of primiparæ lose more and are longer in regaining the lost weight. While the initial loss of weight in a new-born infant cannot be entirely prevented, it can be materially lessened by the exhibition of the milk of another nursing woman until the mother's secretion has been established, yet this offers no very great advantage, and certainly the difference in the rates of gain does not justify the administration of any artificial food during the first days of life.

EDMUND CAUTLEY.

Recurrent vomiting (*'Arch. of Pediatrics,'* 1907, *vol.* XXIV., *p.* 401).—**J. Howland** and **A. N. Richards** discuss the etiology of recurrent vomiting in children, based on a study of about 15 cases. They confirmed the fact that acetone and diacetic acid are present in the urine, and sometimes β-oxybutyric acid. In one case these were not present until the attack of vomiting had begun. Like other observers, they found an increase in the excretion of uric acid during, and especially at the onset of an attack. The excretion of sulphuric acid diminishes, while that of unoxidised sulphur increases. The excretion of indican is much increased. Complete combustion of fat into CO_2 and H_2O is dependent on an adequate simultaneous combustion of carbohydrate (Weintraud, Rosenfeld, Hirschfeld). Incomplete combustion leads to the formation of diacetic and β-oxybutyric acids and acetone. These bodies are formed during starvation, because of deficiency in carbodydrate food-supply; in diabetes, because the body-cells have a deficient power of oxidation for carbohydrates. In recurrent vomiting it is obvious that the latter is the more probable explanation. The increase in uric acid is due to a decomposition of the nucleo-proteids, *i. e.* largely endogenous. It is not exogenous for the diet is unchanged or much diminished. In man only about half the uric acid formed is eliminated as such, the rest undergoing further oxidation. In recurrent vomiting the excess of uric acid excretion is neither due to excess of diet nor of nuclein metabolism. It is, therefore, due to inefficient destruction of uric acid by oxidation. The elimination of unoxidised sulphur in excess, though the total sulphur excretion is not increased, is further evidence of incomplete oxidation. Lactic acid was found, in the only specimen examined for it, at the onset, but not on recovery. Lactic acid is an intermediate product in the combustion of dextrose (Lusk) and appears in the urine in conditions of incomplete oxidation. The writers conclude that at the outset of these attacks there is an interference with certain metabolic processes in which oxidation takes part. The excessive indicanuria before an attack indicates putrefactive processes in the intestine. Indoxyl is formed by oxidation of indol, and is converted into indican by combination with sulphuric acid. Skatol or methyl indol requires similar changes. Phenol combines directly with sulphuric acid. Possibly, if the oxidation of these substances is interfered with, they may become toxic. Potassium cyanide, and, to a less extent, chloroform diminish the ability of the cells to utilise oxygen. The effect of definite doses of phenol and indol on rats, rabbits, and guinea-pigs, was compared with the effect of similar doses on animals previously injected with small amounts of K.C.N. or subjected to chloroform anæsthesia. The experiment showed that diminution of oxidation intensified and prolonged the poisonous effects. The results were more marked in the case of dogs, and marked gastro-intestinal changes, with great degeneration of the liver, were produced. Hence, when the power of oxidation is diminished, indol becomes a most powerful poison. Indicanuria, in recurrent vomiting, shows that there is increased putrefaction in the intestine. Constipation increases the absorption of the indol. Probably skatol and the cresols become poisonous under like conditions.

EDMUND CAUTLEY.

Glottic spasm in whooping cough ('*Arch. of Pediatrics*,' 1907, *vol.* XXIV, *p.* 454).—**M. G. Magid** reports a case in a year-old, breast-fed babe. At the end of a paroxysm the face suddenly become deep blue in colour, the hands and feet were flexed and stiff, then the entire body relaxed and the child looked as if dead. The heart was feeble and slow. After forty seconds he began to come round. The spasm recurred several times daily, and in the intervals the child would laugh and play. Later on, an attack lasted three minutes, and the child was pronounced by a physician to be dead. He came round in a hot bath. The attacks persisted for three months and ceased on the incisors coming through. Antispasmodic treatment did no good.

EDMUND CAUTLEY.

Pyelitis ('*Arch. of Pediatrics*,' 1907, *vol.* XXIV, *p.* 445).—**L. Fischer** divides the symptoms of pyelitis into three groups: (1) intermittent fever, wasting and constipation, or coprostasis; (2) bed-wetting, frequent and painful micturition, apyrexia throughout; (3) digestive troubles, passage of scybala and shreds of membrane, anorexia, rarely fever. The diagnosis in every case was made by microscopic examination. Four cases, all females, are reported in detail, and the variety in the symptomatology noted. It may be met with in infants as an afebrile type. Careful examination is necessary to exclude vulvo-vaginitis and abscess in or near Bartholin's gland. One specimen of urine only is not sufficiently reliable for diagnosis. Baginsky has reported a case in which the morning urine was normal but the afternoon specimen contained pus, casts and albumin. The *Bacillus coli* may be found. Treatment consists in rest, ventilation, bathing, oatmeal or bran bath, to allay genital irritation. A diet of milk diluted with alkaline waters, cereals, fruit, gelatin puddings ; neither meat nor eggs during acute stage. Phosphate of sodium or bicarbonate of potassium, grs. v., three times a day ; or benzoate of sodium. Orotropin was also given. The urine is usually very acid. EDMUND CAUTLEY.

Mental defect in school children (*'Pediatrics,'* 1907, *vol.* XIX, *p.* 493). —**C. K. Clarke** discusses the detection of mental defect in school children. Dementia præcox or precocious dementia he defines as a form of mental disease appearing generally at the first developmental crisis and rapidly ending in dementia, with apathy, indifference, negativism, irrelevance, and inability to make continued mental effort. The family history and whole development of the child should be carefully scanned, and usually significant warning indications will be found. These children are not *average* in any sense of the word, and show mannerisms, undue emotions, egotism, vanity, apathy, indifference, or introspection, sometimes sexual perversions. The developing defects in these children should be carefully noted, and suitable treatment adopted at the earliest possible stage. EDMUND CAUTLEY.

The temperature in children (*'Pediatrics,'* 1907, *vol.* XIX, *p.* 521).— According to **C. G. Kerley** the birth temperature in the rectum ranges from 96° F. to 98° F., and rises about one degree in the next day. Subsequently in normal infants under a year of age it ranges between 98° F. and 99·2° F. Sometimes it rises without any discoverable sign of illness. A daily rise above 99·5° F. must be considered abnormal, but an occasional rise, even considerably higher, may occur in perfectly healthy children. Fever should be relieved if it produces diminished assimilation, loss of sleep, irritability, and restlessness. Interference depends more on the effect on the child than on the height of the temperature. The methods consist of elimination by the bowel, diaphoresis, hydrotherapeutics, and antipyretic drugs. For diaphoresis the writer recommends moderately heavy clothing and tincture of aconite, ½—1 minim hourly for eight doses, or two drachms of Liquor Ammonii Acetatis every two hours for a child one year old. If the abstraction of heat by cold packs and similar measures is impracticable small doses of phenacetin and caffein may be given, with the addition of Dover's powder if the restlessness persists. The phenacetin and citrate of caffein are best given in barley water, cereal or fruit jellies, or apple sauce. Antipyrin is less efficient. Obscure elevations of temperature sometimes occur, for which no cause can be found. Occasionally the fever can be ascribed to active exercise in nervous children, otitis media, encysted empyema, malaria, mild typhoid fever, tuberculosis, intestinal infection. If a competent thorough examination does not reveal any cause, **Kerley** thinks it safe to assume that it is not due to anything of a very serious nature. EDMUND CAUTLEY.

Status lymphaticus (*'Arch. of Pediatrics,'* 1907, *vol.* XXIV, *p.* 490).—**A. Friedlander** reports a case of status lymphaticus and enlarged thymus successfully treated by the X ray. Paltauf, in 1899, fully established the existence of the condition known as status lymphaticus. He gave it the name of lymphatic chlorotic constitution because the blood picture in older patients was that of chlorosis. Sudden death from trivial or apparently no cause is common. Anæsthetics are taken badly. The diagnosis depends on the peculiarly pasty, heavy, anæmic aspect; congenital stridor, cough or attacks of thymic asthma; enlargement of superficial lymph-glands, tonsils, follicles at base of tongue, spleen and thymus. The case was that of a male infant who developed a cough at the age of four weeks, which soon became paroxysmal and caused cyanosis of the face and upper extremities. The paroxysms were asthmatic in character and occurred every five to ten minutes. The diagnosis was based on the signs of a greatly enlarged thymus, cough, inspiratory stridor, asthmatic attacks, pressure cyanosis, enlarged spleen and glands, and absence of cardiac or pulmonary lesion. X-ray treatment was given for a month and the child recovered, apparently completely. EDMUND CAUTLEY.

Typhoid fever (‘*Pediatrics*,’ 1907, *vol.* XIX, *p.* 530).—**L. C. Ager** ascribes the non-recognition of typhoid fever in early life to its marked difference from the adult type. The pathological lesions vary widely, and are usually much less marked than in adults. Extensive ulceration is unusual, and sometimes there are no intestinal lesions. Mild cases only show a little enteritis. Swelling of Peyer's patches and the solitary follicles may occur from other kinds of irritation in infancy. Widal's test is the most reliable sign. The diazo reaction appears earlier, but occurs in many intestinal toxæmias. Under 3 years of age the disease is apt to simulate subacute gastro-enteritis with mild cerebral symptoms. The fever is very irregular, often remittent. Stools are green and watery, tympanitis slight or absent, and delirium unusual. The spleen is only moderately enlarged. Emaciation is rapid and prostration extreme. In children the more frequent type is that of mild typhoid as seen in adults. The onset is often more sudden and the fever greater. The ratio of pulse and temperature must be carefully noted, for it may indicate complications such as perforation, hæmorrhage, or pneumonia. The fever often only lasts for ten to fourteen days, sometimes even less than this. Delirium, if present, is intermittent, and often of a violent type. Sometimes there are paroxysms of terror. More often there is extreme nervousness and fear, often with insomnia. If the fever is prolonged for over two weeks the heart soon shows degenerative changes. Pneumonia is not a dangerous complication. Hæmorrhage occurs in about 3 per cent., and perforation even more rarely, both being most frequent in older children. Myocardial degeneration is one of the most dangerous results. It is important to explain to the parents that the child cannot digest food, that wasting may be extreme, but that on recovery the weight will be soon regained. Feed the patient as in other forms of acute ulcerative ileo-colitis. Cold drinks, weak cold tea, dextrinised gruels, broths, beef juice, raw egg, whey, ice cream made with whey or malted milk, and various proprietary foods may be given. Milk is not essential. At the end of a week or ten days, with a morning temperature of 99—100° F., the patient may ask for food, and can have peptonised milk, milk toast, soft eggs, and bread and butter. The writer does not believe that relapses are due to early feeding. The ice-cap will relieve headache, reduce fever, and induce sleep. Coal tar products should not be used. High saline rectal irrigations are useful, but there is danger of overloading the blood-vessels and putting an extra strain on the heart, and the large amount of water used may cause intestinal distension. As medicine **Ager** recommends 2 to 4 drachms, every two to four hours, of a mixture of 4 oz. each of castor oil and mucilage of acacia with 1 drachm each of Tinct. Opii Camph. and Ess. Menth. Pip. As stimulants alcohol, sal. volatile, digitalis, strophanthus, capsicum, and strychnine may be needed. Tincture of capsicum, in oil or water, per rectum is a quick and powerful stimulant in sudden alarming collapse. Codeine phosphate is better than morphia for cases of hæmorrhage, and is useful if the heart is weak and irritable from want of sleep.

EDMUND CAUTLEY.

Endocarditis in young infants (*'La Presse Med.,' July*, 1907, *No.* 58, *p.* 460).—**A. Romme,** in an article on this subject, draws attention to the observations of K. Lempp (*'Monats. f. Kinderheilk,'* 1907, *vol.* vi, *p.* 78), on seven cases with five autopsies. Their ages were 12 days, 3 weeks, four between 2 and 10 months, and one that was one year old. The etiology of the cases was different from that of the adult, for none of them had suffered from articular rheumatism, chorea, eruptive fevers, scarlatina, or measles. The affections for which they came into hospital were eczema, stomatitis, pharyngitis, otorrhœa, and osteo-myelitis. Heart symptoms were absent, in no case was a murmur heard, and in two only were there signs of dilatation, yet in five cases characteristic vegetative lesions were found in the mitral valves. On the other hand, in all the cases there was accelerated pulse, even when there was no fever. Other important symptoms were attacks of cyanosis, and acceleration of breathing with irregularity, which Lempp considers pathognomonic. Other symptoms less important are fever, which is atypical, enlargement of liver and spleen, and albuminous urine. The prognosis is very bad; all Lempp's cases died. Treatment should consist of stimulants, caffeine, camphor, benzoic acid, and collargol in intravenous injections or enema.

VINCENT DICKINSON.

Cancrum oris in typhoid fever (*' Thèse de Paris,'* 1904).—**Carrière-Montjossieu.**—This rare complication is chiefly found in children, especially girls. It occurs most frequently in cold and damp climates and in the spring and autumn. The lateral decubitus has been regarded as a predisposing cause. Its onset, which is insidious, usually occurs in the third or fourth week. Its evolution is very rapid. The mortality is very high. Among twenty-one cases collected by the writer there were only six recoveries. The younger the child the graver the prognosis. Death, which occurs as a rule within a week of the onset, may be due to inanition following dysphagia, to septic broncho-pneumonia, or to absorption of ptomaines from the gangrenous area. The affection is not due to a specific micro-organism, but may be brought about by any accidental microbe of the mouth, acquiring special virulence under certain conditions. Prophylaxis should be attempted by ensuring buccal antisepsis and preventing cachexia. Curative treatment should consist in the local application of the thermo-cautery and the administration of stimulants. When Klebs-Loeffler bacilli are present antitoxin should be given.

J. D. ROLLESTON.

Diphtheria in Switzerland (*'Rev. Méd. de la Suisse Romande,' June* 20, 1907, *p.* 463).—**Morax.**—During the six years preceding the introduction of antitoxin, *i. e.* from 1889—1894, there were 888 cases of diphtheria in the canton of Vaud; 456 died—a mortality of 51·3 per cent. The mortality at the hospital at Lausanne during the same period was 41·4 per cent. During the ten years succeeding the introduction of antitoxin, *i. e.* from 1895—1904, there were 7545 diphtheria cases with 703 deaths—a mortality of 9·3 per cent. The mortality at the hospital at Lausanne during this time was 6·7 per cent., being 2·5 per cent. for faucial diphtheria, and

21·8 for laryngeal cases, whereas the corresponding figures for the pre-antitoxin period were 33·7 per cent. and 56·3 per cent. respectively.

J. D. Rolleston.

Tracheotomy and tuberculosis (*'Centralbl. für Laryngol.,' July,* 1907, *p.* 254).—**Dhomont,** wishing to determine whether tracheotomy predisposed to lung affections, made inquiries as to the fate of patients who had been tracheotomised for diphtheria between the years 1884 and 1895. From the thirty cases about which he gained information he concluded that tracheotomy patients are not more likely to die early than others. In the subsequent discussion Tessier said he had been able to follow up ten cases of tracheotomy, of whom four had died of tuberculosis between the ages of twelve and twenty years. J. D. Rolleston.

The persistence of diphtheria bacilli (*'Edin. Med. Journ.,' December,* 1906, *p.* 510).—**Meikle,** in a paper based on the clinical and bacteriological investigation of 300 cases of diphtheria, arrives at the following conclusions: (1) Most cases of diphtheria are free from bacilli at the end of the third week. (2) Two consecutive negative bacteriological results are sufficient. (3) The rarity of return cases in diphtheria is due to (*a*) the diminished virulence of bacilli in convalescents, (*b*) to some immunity possessed by those who come in contact with such persons. (4) The duration of persistence is not influenced by sex, nor by the amount of antitoxin given nor by the kind of antiseptic used, but is slightly influenced by season and the age of the patient, being less in summer and in older patients. (5) The chief cause of prolonged persistence is enlarged tonsils.

J. D. Rolleston.

Whooping-cough at the Hôpital Bretonneau (*'Thèse de Paris,'* 1907). —**Rouchy.**—During the years 1902—1907, 727 cases of whooping-cough were admitted; 152 died—a mortality of 20·9 per cent. This relatively high figure, which far exceeds that of the Hôpital des Enfants Malades (4·36 per cent.), was due to the frequency of complications. Bronchopneumonia was the commonest and most fatal complication, of which there were 126 cases with 87 deaths. Measles occurred in 56 with a mortality of 25 per cent. Though a prophylactic dose of 10 c.c. of serum was given to each child on admission, diphtheria was met with in 14 cases, 4 of which were fatal. The frequency of complications Rouchy attributes to the hospital organisation, and recommends that every whooping-cough patient should be isolated on admission, and should not be admitted to a common ward until all danger of secondary infection is past.

J. D. Rolleston.

Herpes facialis in diphtheria (*'Riv. di Clin. Pediat.,' June,* 1907, *p.* 445).—**Orsi,** in an analysis of 2400 diphtheria patients in Mya's clinic, found herpes facialis present in 59 cases, or 2·45 per cent. Its frequency was greatest in children between the ages of four and five years. In 33 cases the diphtherial attack was purely faucial, in 13 there was slight involvement of the larynx, and in 4 of the nostrils as well. In 6 the larynx alone was affected. With 2 exceptions all recovered. Orsi, therefore, regards its appearance as of favourable prognosis. The localisation of the herpes, which was usually labial, frequently corresponded with that of the faucial lesion. With 7 exceptions, in which the eruption appeared after the cessation of the local diphtheritic phenomena, the herpes occurred during the acute stage. (In 1370 cases of diphtheria under the reviewer's care herpes facialis occurred in 55, or 4·1 per cent. With 1 exception the eruption occurred in all before the throat became clean The diphtherial attack in each case was faucial, in 17 cases being associated with nasal, and in 5 with laryngeal involvement; 4 of the cases were fatal. Herpes was found to be more frequent in the severe than in the mild cases.)

J. D. Rolleston.

Report on the difficulties in the declaration of scarlet fever in schools ('*Journ. de Med. de Paris,*' *July*, 1907).—**Stackler** points out that the consequence of the declaration of scarlet fever in a school is, amongst the poor at least, the abandonment of the child to the street or the family abode; therefore the greatest care should be taken in making the diagnosis before the declaration is made. In a disease the symptoms of which are so variable it is important that the child be isolated from the first suspicion, but the declaration should not be made till there is no possible doubt of the nature of the disease. There should be no declaration of doubtful cases.

J. Porter Parkinson.

The significance of certain abnormal stools in early life ('*Postgraduate,*' *July*, 1907).—**Pisek**.—The stools of a breast-fed infant should be yellow in colour and acid, without disagreeable odour; cow's milk produces lighter stools, with neutral or acid reaction. In a breast-fed baby's stools yellow masses surrounded by green mucus are often present; these are not curds but merely fat masses. In the bottle-fed baby too much proteid may produce either constipation or diarrhœa; the latter stool contains masses like curds, which, however, are soluble in ether, proving them to be fat; true curds are harder. Excessive fat in the dietary produces a loose, greasy, sour-smelling acid stool. Barley-water produces a slimy stool often mistaken for mucus; if mucus is seen in any quantity it is pathological and means inflammation in the large intestine. A foaming, bubbling stool, acid in reaction, indicates too much sugar in the food.

J. Porter Parkinson.

Pathology.

Tuberculous lymph nodes ('*Arch. of Pediatrics,*' 1907, *vol.* xxiv., *p.* 418).—**L. E. La Fétra** reports a case of tuberculous cervical glands in a baby, aged four months. It was ascribed to infection through an inflamed tonsil or naso-pharynx. No source of infection could be discovered. The condition is very rare in infants in New York, and the great majority of such cervical swellings in children under three years are not tuberculous. The writer quotes various statistics as to the frequency of the affection and refers to the experimental results obtained by MacFadyen and MacConkey ('British Medical Journal,' 1904, vol. ii, p. 129), who produced tuberculosis by inoculating into guinea-pigs mesenteric gland-tissue from five out of twenty apparently non-tuberculous children. Harbitz, of Christiania, proved by anatomical examination and experimental inoculation that out of 142 children seventy-three were free from tuberculosis and sixty-nine had tuberculous infection. In eighteen of the latter the infection was only discovered by inoculation experiments and ten of these were under one year of age, the youngest being seven weeks old. In thirteen out of the eighteen the cervical glands were affected.

Edmund Cautley.

Sacral or "Mongolian" pigment spots.—(*'Arch. of Pediatrics,* 1907, *vol.* XXIV, *p.* 426.)—**J. Brennemann** has been struck by the nearly constant presence, in recently-born children of the darker races, notably the Mongolian and the African; of irregular areas of bluish pigmentation in the sacral and sacro-gluteal regions. For centuries it has attracted much attention in Japanese babies, as a well-marked, deeply pigmented blue spot, one or more, varying in size from that of a small coin to an expanded hand, almost invariably present. The spots may extend over both buttocks or into the lumbar region, and similar isolated spots may be found elsewhere, but almost never on the ventral or flexor surfaces. They are not raised nor influenced by pressure. They may not appear until weeks or months after birth. The colour deepens for a time and disappears in a few years. In Chinese and other Mongolians the colour is more of a bluish gray. Baelz, in 1885, considered it a racial characteristic, and on finding it later in two Indian children in Northern Vancouver argued that it showed a Mongolian descent of the American Indian. He found large pigment cells deep in the corium. More than a hundred years ago Saabye, a Danish missionary, noted these spots in new-born Eskimo in Greenland. Grimm, in 1895, found the pigment cells of Baelz as early as the fourth month of fœtal life. Adachi, a Japanese, published the results of an exhaustive study of the condition in 1903. Numerous other writers are also mentioned. Adachi found the pigment cells in the sacral region in ten out of twenty-four white children, and regarded them as a normal human characteristic. They have been found among Koreans, Anamites, Malayans, Javanese, Indonesians, Samoans, Hawaians, Philippine and Pacific Islanders; American and Araucanian Indians; Papuans and others. The writer describes them in the American negro, and found the deep-seated pigments cells in the corium. This pigmentation is probably a normal human characteristic, a persistence in rudimentary form of what was once a more widespread and functional layer of pigment, such as exists in certain monkeys. EDMUND CAUTLEY.

Carbolic acid poisoning by rectal injection (*'Arch. of Pediat.,'* 1907, *vol.* XXIV, *p.* 357).—**G. N. Acker** records a case of a boy, aged 6 years, who became comatose as a result of an injection of carbolic acid in water, 1 drm. to a pint. The mixture was not stirred, so probably the acid sank to the bottom and the child got a strong dose. Somnolence came on almost immediately. In the case of a boy, aged 3 years, a similar result ensued. He became suddenly unconscious, with feeble pulse and respirations, and remained so for eight hours. In both cases there was carboluria.

EDMUND CAUTLEY.

Tuberculous meningitis without tubercles (*'La Clin. Infant.,' May,* 1907, *No.* 9, *p.* 269).—**Siredey** and **Tinel** publish this interesting case of a boy, aged 16 years, who was admitted into the hospital in a comatose state. He had been ill fifteen days with pains in the head, vomiting and gradual coma, and presented nuchal rigidity, photophobia, wasting, dilatation of pupils, irregular pulse, Kernig's sign, and evidences of lesions at the apices of the lungs. Lumbar puncture showed marked lymphocytosis with some polynuclears. Death took place eleven days later. At the autopsy the most minute examination failed to discover any tubercular granulations either in the meninges or in the cerebral cortex. To the naked eye the changes consisted in an intense congestion of the nervous centres, all the blood-vessels being engorged; at the same time the meninges had lost their transparency and presented at some points a slight thickening of a milky aspect: they could be raised without tearing the underlying cerebral substance; the sub-arachnoid spaces and the ventricles contained an appreciable quantity of fluid. The lungs were the seat of diffuse tubercular lesions, large granulations of the size of a lentil, confluent in some parts. Microscopic examination showed a large number of Koch's bacilli in the tubercular follicles. There was no tubercle in the liver. Examined microscopically the meninges presented interesting alterations: there was first of all a diffuse leucocytic infiltration without any tubercular granulations; at several points the cells were heaped up into little nodules, but nowhere were tubercular follicles met with. The lesions corresponded exactly to the type described by Armand Delille as "diffuse leucocytic infiltration with perivascular accumulation and nodular tendency." No giant cells were found and no caseous degeneration, nothing in fact that recalled the usual evolution of tubercular nodules. But a considerable number of Koch's bacilli were found wherever the infiltration of leucocytes existed. They were especially grouped around the blood-vessels, where they formed, in certain parts, little conglomerations without modification in the form or grouping of the neighbouring cells. These bacilli were particularly abundant in the external coat of the vessels. There were none in the thick part of the vascular coats, although there were in parts a few lesions of endarteritis and even small hæmorrhagic foci, in the middle of which were seen the torn vascular walls. In fact, a number of microscopic examinations showed that the tuberculosis of the meninges in this case took the form of a *diffuse leucocytic infiltration with large numbers of Koch's bacilli, without tubercular follicles.* VINCENT DICKINSON.

Therapeutics.

The prophylaxis of scarlatinal nephritis (*'Edin. Med. Journ.,' February, 1907*).—**Thompson** concludes that scarlatinal nephritis is a distinct part of the disease, and is not to be looked upon as an inevitable sequela, occurring in a certain percentage of cases, and as such it should be open to treatment. The only form of treatment that is likely to be of any real value is the prophylactic, given with the object of destroying or weakening the virus, an undetermined micro-organism, by a substance which is in itself harmless; and as the virus is in the general circulation at the commencement of the disease, it must necessarily be present in the kidneys and urinary system. The only drug that in the author's hands has proved of any value in this respect is urotropin. It should be given in five grain doses diluted with water thrice daily to children up to twelve years of age, and in seven and a half grain doses to older patients from the beginning of the disease to the end of the fourth week. Of forty-seven cases treated in this manner not one had nephritis, and in only a single instance did albuminuria occur. The author insists on a milk and farinaceous diet for three weeks, during which time the patient should be kept in bed, and encourages the free use of diluents. All methods of excretion should be assisted and the fauces swabbed gently or gargled with a solution of sodium bicarbonate to remove the mucus, followed by a weak antiseptic solution, such as chlorine water. Where gargling is not possible a Higginson's syringe may be used, care being taken not to employ too much force lest the Eustachian passages become infected. Desquamation should be encouraged by frequent sponging and occasional tepid baths. Constipation should be avoided, but purging lowers the arterial tension and is thus detrimental to diuresis, which should be encouraged. T. R. WHIPHAM.

The treatment of whooping-cough (‘*Clin. Journ.*,’ *August* 14, 1907).—**D. M. Macdonald** advocates the following mixture in the treatment of whooping-cough: Antipyrin, ʒj; liq. morph. hydrochlor., ʒss; syr. tolu, ad ℥ij; ʒi three or four times daily. The combination of antipyrin and morphia he considers to be more efficacious than antipyrin or morphia alone or antipyrin combined with potassium bromide. A child of from three to five years of age can take the dose given above; to younger children half the quantity should be administered. From bed-time to 11 p.m. the paroxysms are, as a rule, more frequent and more severe, and vomiting is more likely to occur than at other periods during the day, so that a double dose at bed-time is often an advantage.

T. R. WHIPHAM.

The treatment of scarlet fever (‘*New York Med. Journ.*,’ *March* 9, 1907).—**Kellogg** details the treatment employed at the Hospital for Scarlet Fever and Diphtheria, New York. The patients are kept in bed until the temperature has been normal for ten days, although a minimum period of three weeks is insisted upon. The change from the recumbent to the upright position is made very gradually indeed. By following this rule the tendency to heart and kidney complications is much diminished. The time of discharge is determined by the completion of desquamation, which averages about six weeks, but a minimum of five weeks is insisted upon. During the first three weeks the diet consists solely of milk, administered every two hours, from 6 a.m. to midnight, after which farinaceous and nitrogenous foods are added, though the latter are only given in small quantities till well on in the fifth week. The importance of giving water freely cannot be over-estimated, and the low percentage of kidney complications at the hospital is attributed to the large quantities of water which the patients drink. Care should be taken, however, not to over-distend the stomach by giving too much at a time. Adult patients are given 8 oz. of water every two hours from 7 a.m. to 11 p.m., *i.e.* at alternate hours to the milk, while children receive a proportionately smaller amount. As a consequence the specific gravity of the urine is low, frequently 1004 or 1006, and a specific gravity of 1010 or 1012 is considered an indication for increasing the quantity of water. Under this treatment the early transient albuminuria is the exception and acute nephritis is very rare. The author considers that the popular method of oiling the skin is often used over too long a period. It is important that the excretory function of the skin should reassert itself as early as possible to relieve the kidneys, and on this account he limits the application of oil to the early days of the disease and to those cases only in which the skin is much irritated or pruritus is a prominent symptom. In such cases cacao butter is recommended. If the pruritus is severe sponging with French bran bags or the application of a calamine and zinc oxide lotion gives relief. A daily warm bath may be given from the onset of the disease, but little friction should be used in drying. The bath often has a very soothing effect on the restlessness and delirium of the early stage. Desquamation of the soles of the feet, which are the last to peel, may be hastened by soaking the feet once or twice daily in a strong solution of washing soda for ten minutes and then in hot soapsuds for a similar time, after which they are rubbed vigorously with a rough towel. When the skin shows signs of loosening soap and water alone are sufficient. Cleanliness of the nose and throat is rigidly insisted upon. Treatment by gargles and sprays is inadequate if these regions are at all extensively involved, and in nearly all cases a douche or injection is employed. Normal saline is the solution usually employed, but when the throat is dry and glazed a solution of sodium bicarbonate (ʒj to the pint) is preferred to soften tenacious mucus or start secretion. Antiseptic solutions possess no apparent advantage over these, and there is a danger that a considerable quantity may be swallowed during the earlier douchings. The solution is made as hot as it can be comfortably borne, usually 110° F. at first and gradually increasing to 125° F. About two quarts are usually used each time, though at first smaller quantities may be necessary until the patients get used to the application. Severe cases are irrigated every two hours. The possibility of carrying infection from the throat to the ears has been urged as an objection to this form of treatment, but in the author's experience this complication has not been observed. In cases of membranous pharyngitis a solution of chloral hydrate in glycerine (gr. x to xx to the oz.) is applied with a long glass pipette to the edge of the membrane about twenty minutes before irrigating, fifteen to twenty drops being sufficient for an application. It produces slight local anæsthesia, is antiseptic, and has a softening effect on the membrane. Difficulty in swallowing is gradually overcome by the irrigations, but much temporary relief may be obtained by sucking an orthoform lozenge (gr. $\frac{1}{4}$). Some patients complain of dryness of the throat and slight nausea after frequent use of this drug, but the majority are much benefited.

T. R. Whipham.

Chronic valvular disease of the heart (‘*Pediatrics*,’ 1907, *vol.* XIX, *p.* 282).—As a basis **Edward E. Cornwall** recognises that valvular disease is either a congenital condition or almost always a sequel of endocarditis due to acute rheumatism or infectious disease. Another important point is the burden thrown on the crippled heart by growth and development. Each case must be treated on its merits. There is no routine plan for average cases. We must estimate the functional and nutritional power of the heart muscle, diagnose what valves are affected, and consider the idiosyncrasies of the patient, the physical and the mental environment. The child's irresponsibility renders it difficult or impossible to secure his co-operation, and it is not easy to get that of the parents when troublesome symptoms have passed away. If compensation has been lost, keep the child in bed until long after it has been re-established. A month is usually a minimum period. Subsequently regulate the amount and character of the exercise taken. The writer recommends limiting it to walking on the level only for at least a year after acute endocarditis or failure of compensation. In favourable cases minor gymnastics, hill-climbing, and bicycling on the level may be allowed, but running, swimming, and prolonged athletic games are not permissible. Nervous excitement should be guarded against. The child should be kept from school for a least a year, and when he goes should be watched for signs of heart strain, such as impaired nutrition, anæmia, shortness of breath and cough. Special care is needed at puberty. Good hygiene and diet are imperative to maintain the nutrition of the heart muscle. Heart stimulants must not be given, if recumbency alone is sufficient to restore the circulatory balance, or continued after compensation has been gained. They must not be given to restore compensation unless the child is kept in bed. The dose must be suited to the capacity of the heart muscle. Large doses may be injurious and exhaust a dilated heart with feeble muscles. In such cases a reduction in the dose may be beneficial. Do not be in too great a hurry, as in bad cases improvement may be very slow. Digitalis and strophanthus may be tried alternately to find out which suits best. The latter is often more beneficial than the former in bad dilatation and generally so in stenosis. It exhausts the heart muscle less. Strychnine may be used as an adjuvant and continued after the other drugs have been stopped. It cannot be relied on by itself to restore compensation. Aromatic spirit of ammonia is a valuable emergency stimulant. Morphine or codeia is needed for extreme dyspnœa and cough and insomnia. For complications rely on palliatives until the insufficiency of the heart is relieved. EDMUND CAUTLEY.

The treatment of infantile eczema by subcutaneous injections of sea water ('*La Clin. Infant., July*, 1907, *No.* 13. *p.* 385).—**G. Variot** and **R. Quinton** inject, according to age, 30 to 50 c.cm. of sea water at two or three days' interval, and according to circumstances: they are repeated from three to sixteen times. The authors in their communication to the Académie de Médecine state that in cases of general eczema, of more or less old standing, the initial effect of the first or second injection is most remarkable. There is an acute exacerbation with vascularity and swelling of the skin, and serous oozing, especially on the face and hairy scalp; for about three to twelve days this hypersecretion goes on, detaching the pre-existing crusts; the oozing becomes thick and yellow, like pus; then the attack dies out, the shiny redness of the skin diminishes, thick abundant epidermic scales form, and after about fifteen days the skin begins to assume its natural rose colour, the hairy scalp dries, and hair begins to grow. This initial exacerbation is of such intensity that it is necessary to warn the parents beforehand, but in no case was there any serious inconvenience. In three or four weeks the infants covered with an oozing or scabby eruption were, if not completely cured of their unsightly mask, at least in every case considerably benefited. In some instances a fresh attack occurred after the first cure, and the injections had to be repeated, but the authors are not at present in a position to give a positive opinion as to the proportion of these relapses or their degree of intensity. In certain forms of patchy eczema limited to the face or elsewhere complete and rapid cure was sometimes obtained after four to eight injections without any abnormal oozing or reaction. In these cases the sea water exerted a direct and rapid drying action on the skin. The authors believe from this observation that the mode of action of sea water on eczema varies according to the form, and probably also according to the period of the eczematous eruption. Fifteen cases were treated, of which nine (60 per cent.) had a reaction after the first injection, intense in seven cases. Six infants (40 per cent.) had no local reaction. Complete apparent cure or marked amelioration ensued in seven cases; considerable amelioration in four other cases. In four cases the effect was almost nothing. Details of all the cases are given. VINCENT DICKINSON.

The treatment of incontinence of urine by retro-rectal injections of artificial serum ('*La Clin. Infant.*,' *August*, 1907, *No.* 16, *p.* 512).—**Jaboulay** thinks that incontinence of urine is the result of a functional disturbance of the hypogastric sympathetic, and has tried to exert a favourable influence on this affection by means of retro-rectal injections of 200 c.cm. of normal saline solution. The needle is inserted in front of the coccyx, a finger being introduced into the rectum. **De Arresse** has tried this method in three boys, aged 7 to 15 years. In the first case in which the patient wetted the bed several times during the night a single injection of 100 c.cm. was sufficient to prevent recurrence for a month, and in the four following months it only recurred three or four times. In the second case four injections of 80 to 130 c.cm. were given during four weeks whenever a fresh nocturnal attack occurred. After the fourth injection given two months since there had been no return. The third case was that of a child who became deaf-mute after meningitis; the prepuce was adherent to the glans by thick fibrous adhesions which were thought to be the cause of the incontinence, but incision had no beneficial effect. After three injections the affection ceased for six weeks. VINCENT DICKINSON.

Perborate of soda as a dressing (*'La Clin. Infant.,' August*, 1907, *No.* 15, *p.* 480).—**Genevrier** uses this as a dressing for children in place of iodoform, over which its advantages are numerous. It is cheap, acts like oxygenated water, is a disinfectant, deodorizer, and detergent, correcting all impurities by its gaseous product. It is inodorous, unirritating, non-toxic, and cicatrising. It can be used on the most sensitive skins or mucous membranes, arrests capillary hæmorrhage, and decolourises, and never forms crusts even when used in excess. VINCENT DICKINSON.

The treatment of adenoids in young infants (*'La Clin. Infant.,' July*, 1907, *No.* 13, *p.* 416).—**L. Elmerich** takes this subject for his '*Thèse de Paris*,' 1906. The treatment consists in their ablation, and provided the naso-pharynx is well disinfected and their is no fever, the curetting of the vegetations with Schmitt's curette, or Loevenhoeck's "pince-curette" is as satisfactory in the youngest infant as in older children, there being no other difficulties than those caused by narrowness of the passages, which are easily overcome by using instruments of a suitable size. Their radical cure is neither accompanied by hæmorrhage nor fever, and the good effects are, so to speak, immediate. Adenoids influence nutrition either by simple mechanical obstruction, making the ingestion of food difficult, or by secondary changes in the different systems of the organism. In the first case it will be easily seen that the ascending curve of body weight will follow immediately on treatment, while in the second instance, on the other hand, the curve will not rise until the accidents caused by the adenoids have themselves disappeared after ablation. Examination of the curve gives a definite result: it shows not only the sudden increase of weight, but the degree of secondary disturbance caused by the vegetations while bearing witness to the harmlessness of intervention. When we consider cases in which the vegetations act only mechanically or produce very mild infectious conditions, which cease after their ablation, and which do not produce a profound alteration in the structure of the organism, an immediate increase of weight, when weighings are done every eight days, is invariably noticed.

VINCENT DICKINSON.

Collargol in infectious disease (*'Thèse de Paris*,' 1904).—**Desanti**.—Collargol—an allotropic form of metallic silver—is rapidly absorbed and as rapidly eliminated by the kidneys and intestines. It may be administered by inunction, intra-venous injection, or by ingestion. It can be tolerated in relatively high doses. Argyria has never been observed. Its bactericidal power is relatively weak. Its beneficial action is to be explained by the fact that it favours the production of leucocytosis and thereby helps in the process of natural defence. It has been employed with encouraging results in scarlet fever, erysipelas, influenza, cerebro-spinal meningitis, and pneumonia. Its administration was followed by a fall in the temperature, increase in diuresis, and improvement of the general condition.

J. D. ROLLESTON.

Diphtheria at the Hôpital Trousseau, Paris ('*Thèse de Paris*,' 1907). —**Baudoin**.—During 1905, 539 children were admitted to Netter's diphtheria block at this hospital; 495 were found to have diphtheria, the rest were suffering from other diseases; 39 died—a mortality of 7·87. After subtracting 11, who died within twenty-four hours of admission, this figure is reduced to 5·78. The mortality in previous years had been much higher—20·38 per cent. in 1901, 12·23 per cent. in 1903. Baudoin attributes the lowered mortality partly to the greater proportion of mild cases and partly to the employment of collargol and adrenalin in addition to the administration of antitoxin. Diphtheria morbidity was found to be relatively low in the first year of life, being represented by only 2·81 per cent. of the admissions. It rises rapidly to 16·59 per cent. in the second year, to reach its maximum, 22·06, in the third year. In the course of the next two years it slightly decreases, and subsequently the fall becomes more marked. The mortality is very high in the first two years of life, being 21·42 in the first year, 17·07 in the second, falling to 7·34 in the third, and 4·00 in the seventh. As prophylactic treatment for the serum phenomena, calcium chloride was employed (15 grains daily by mouth on the day of injection and during the two following days). Among 252 patients to whom the drug was given regularly the rash percentage was only 2·38, whereas among 264 to whom it was either not given at all or only irregularly the percentage was 15·53.

J. D. ROLLESTON.

Physical training as a therapeutic agent ('*Canadian Journ. of Med. and Surg.*,' *September*, 1907).—**McKenzie** showed the value of this therapeutic agent in developing defective organisation, in regaining muscular power and efficiency lost through disease, in correcting abnormal functions of the body, in correcting deformity, etc. Infantile spinal paralysis leaves behind an unequal degree of paralysis of various muscles, and by constantly directing the effort of the individual to the performance of certain desired actions new combinations may be formed and the disability be removed. Physical inefficiency is often the result of habit, though disease may have been the original cause. Limping or standing in a faulty attitude may be corrected by physical training. Deformities of the spine and thorax are due to many different causes, for some of which, such as congenital abnormalities, nothing can be done to remove the cause, but by physical training the deformity may be lessened or overcome, the first principle being to maintain an ideal position while performing all the movements. The writer shows photographs of the various apparatus he uses in his gymnasium.

J. PORTER PARKINSON.

Energin. Cod-liver oil chocolate ('*Allgemeine Wiener medizinishe Zeitung*,' *July* 30, 1907).—**Pollak** warmly recommends this new preparation. Energin is cod-liver oil put up in chocolate tablets: each tablet contains about one teaspoonful of pure oil with 0·2 grm. of calcium phosphate and a small quantity of lecithin. The taste of the oil is quite masked so that children take it readily. Janzus has shown that 94 per cent. of the fat is assimilated. Pollak found he could continue giving the oil in this form during the summer months without provoking any intestinal disturbances. The full therapeutic effect of the oil was obtained. M. D. EDER.

A case of cerebro-spinal meningitis cured by Paltauf's serum (*'Wien. klin. Rundschau,' August* 4, 1907).—**Jehle** presented this case to the Section for Pediatrics of the Viennese Medical Society. Seventy-two hours after commencement of the illness a lumbar puncture was made, drawing off 20 c.c. of very cloudy fluid. At the same time 20 c.c. of the serum was injected intra-durally. The temperature fell in twelve hours from 40° to 36·7° F. The rigidity of the neck persisted and the spinal fluid remained cloudy. Forty-eight hours later after a further puncture another injection of 30 c.c. of the serum was made. The rigidity quite disappeared within twenty-four hours and there was no further rise of temperature. The third day after the first injection there was an outbreak of herpes over the left thigh; the contents of the vesicles was, on microscopic examination, found to contain meningococci. M. D. EDER.

Otology, Laryngology and Rhinology.

Occlusion of the external meatus in an infant, the result of forceps delivery (*'Arch. of Otol.,'* XXXVI, *p.* 439).—This case was reported by **Haskin** to the Otological Section of the New York Academy of Medicine. The forceps caused an extensive laceration behind and below the tragus. An ulcer resulted, which healed. Almost complete occlusion resulted in six weeks. This yielded to dilatation with a bougie. MACLEOD YEARSLEY.

Displacement of the auricle by a tumour (*'Arch. of Otol.,'* XXXVI, *p.* 440).—The patient, under the care of **Wendell Phillips**, was a girl, aged 11 years. The tumour was first noticed by the mother at the age of two years. Whenever the child ate anything sweet the side of the face and neck became flushed. The growth extended from about the centre of the ramus of the jaw and extended along the face, affecting the neck, ear, and mastoid region. It had completely separated the membranous from the bony meatus. Hearing was unaffected. The tumour was very soft and probably angiomatous. MACLEOD YEARSLEY.

A case of serous meningo-encephalitis, with autopsy report (*'Arch. of Otol.,'* XXXVI, *p.* 432).—**Albert Blau** reports the following interesting case: E. K—, aged $2\frac{3}{4}$ years. Measles two weeks before Christmas, 1904. January 1: Pain right ear, followed by discharge, loss of appetite, gradual loss of sight and hearing, left ptosis, left arm and leg convulsions, moderate rise of temperature. Eyes examined January 19: Right pupil sluggish, disc pale, arteries thin. Left ptosis, pupil dilated, irresponsive; disc as in right. On January 26 seen by Blau. Child emaciated, somnolent, breathing with difficulty. Temperature 38° C.; pulse 60–80. Heart and lungs normal; reflexes absent; no cervical rigidity; abdomen retracted; incontinence of fæces and urine; urine normal. Right ear, fœtid discharge, granulations in tympanum, membrane destroyed, no mastoid symptoms. Lumbar puncture not performed. Antrum opened on January 30; no pus. Posterior wall carious and removed, exposing middle fossa 1 cm. Dura tense, greyish-white, injected. Dura incised and brain punctured in three directions; no pus found, but large quantity of clear fluid evacuated at each insertion of knife. Sigmoid sinus and posterior fossa exposed; incision gave same result as in middle fossa. Death eighteen hours later. *Autopsy.*—Dura very tense and moderately injected. Longitudinal sinus contained clotted blood. Pia transparent, vessels very thin. Convolutions flattened. No evidence of cloudiness, adhesions, tubercles, or pus. Brain substance moderately firm. Both lateral ventricles enormously dilated, the horns admitting an adult thumb. Thalami and corpora striata flattened. Third ventricle dilated. A great deal of watery fluid.

MACLEOD YEARSLEY.

Earache ('*Pediatrics,*' 1907, *vol.* XIX, *p.* 551).—**J. B. Rae** emphasises the importance of curing ear discharges. Earache in babies may be only indicated by fretfulness, restlessness, inability to sleep, or broken sleep. The child at intervals raises the hand to the ear or cries when it is touched. In older children there is no pain on manipulation of the auricle. Fever is the most common symptom. Other causes being excluded, the ear must be examined with a speculum and reflected light. The state of the drum varies from a peripheral injection of the membrane, with clear areas behind and in front of the malleus handle, to a deep and fiery redness with bulging of the drum and complete loss of all landmarks. In the latter stage immediate free incision is indicated. In early stages give a saline cathartic, restrict the diet, and let the affected ear rest on a hot water or hot salt bag. Adenoids are almost always associated with acute otitis media and should be removed, if the otitis is in the early stage. Otitis media, in the course of exanthemata, may give rise to no symptoms and yet cause rapid and extensive destruction. The only safeguard is daily aural inspection and immediate treatment. Furunculosis sometimes is the cause of earache; foreign bodies rarely.

EDMUND CAUTLEY.

Hereditary squint ('*Med. Press,*' *September* 4, 1907).—**Licherer** records an interesting instance of squint with ocular disturbance handed down through several generations. The family in question has been affected with strabismus for at least four generations. The first and second had large families, in which the males, nine in number, all had convergent strabismus in the left eye, while all the females were emmetropic and had no squint. The children of those affected also had convergent strabismus on the left side with the additional ocular disturbance of hyperopia and amblyopia. The eldest son of the first family had three children, of whom the female was emmetropic, while the boys were emmetropic in the right eye, and hyperopic in the left. The family history bears out Douder's assertion that convergent strabismus is closely associated with hyperopia and reduction of acuity of vision.

T. R. WHIPHAM.

Surgery.

Gastric ulcer ('*Pediatrics,*' 1907, *vol.* XIX, *p.* 423).—**G. K. Paterson** reports a case of ruptured gastric ulcer in a boy, aged 12 years and 8 months. Rupture occurred after a twelve days' illness, characterised by pain, indefinitely localised in the epigastric region, coming on at irregular intervals after food, of a burning character. Sometimes there was no pain after food. Flatulence and vomiting were absent. Severe pain came on, after a light dinner at 7 p.m. An hour later he was collapsed, pale, with slow pulse, rigid abdomen, and normal temperature. Pain was felt about the navel and in the left shoulder. It was relieved by fomentation and gentle friction. All symptoms of shock passed off in half an hour. At 9 p.m. he vomited, and once again during the night, with frequent retching. Twelve hours later all the signs of peritonitis were present. A small punched-out ulcer in the anterior wall and general peritonitis were found at operation eighteen hours from time of rupture. On the third morning after he had pneumonia of the right lower lung. Though desperately ill, almost moribund at times, he eventually recovered. The cause of the ulcer was obscure. References are given to other cases.

EDMUND CAUTLEY.

Osteomyelitis ('*Arch. of Pediatrics*,' 1907, *vol.* XXIV, *p.* 481).—**T. M. Rotch** and **A. W. George** have examined early conditions of osteo-myelitis by the Röntgen ray. Delay in diagnosis and operative treatment of these cases may mean death or permanent deformities. The disease is mostly due to the staphylococcus in chronic cases, and to the streptococcus in rapidly septic cases: occasionally to the pneumococcus or the typhoid bacillus. It may be single or multiple in distribution. The tissues are usually swollen, the epiphysial line thickened, and the shadow surrounding the epiphysis and diaphysis is dense. When seen early, by the Röntgen method, the principal change is thickening and bulging of the periosteum. If the infection is in the marrow, it shows in the radiograph as one or more definite shadows, from a pin-head to several times that in size. The bone structure is being destroyed and the lime salts absorbed. Illustrative photographs are given. EDMUND CAUTLEY.

Pneumococcic arthritis ('*Arch. of Pediatrics*,' 1907, *vol.* XXIV, *p.* 502). –**A. F. Furrer** reports a case in a baby 16 months old, and tabulates 26 previously recorded cases in infants and children. In his patient, a boy, the right elbow and left knee were red, hot, swollen, and very tender. On incision above the elbow about an ounce and a half of thick yellow pus was obtained. The abscess did not extend through the joint. The knee subsided, and patient recovered. Six months later he died from pneumonia and symptoms pointing to an abscess of the liver. No autopsy was obtained. Another unreported case is included in the summary. In about half the cases the joint affection was secondary to pneumonia. In one fourth it followed otitis media, bronchitis, measles, etc. In one fourth it was apparently primary. In adults about 90 per cent. follow pneumonia. The affection has to be diagnosed from acute articular rheumatism, acute osteo-myelitis, and arthritis due to tubercle, syphilis, or gonorrhœa. Bacteriological examination is essential. The larger joints, especially the knee, are the most liable. In 16 out of 28 more than one joint was involved. The complications include pericarditis, endocarditis, empyema, and meningitis. About half the patients die from a general extension of the infection. If the joints only are involved recovery usually ensues under proper treatment. Absolute rest in bed and fixation of the joints is essential; good diet; incision and drainage if fluid is present. Antipneumococcic serum, saline infusions, and direct blood transfusion are measures to be used to combat general infection. EDMUND CAUTLEY.

Muscular tuberculosis ('*Bull. de l'Acad. de Méd.*,' *No.* 6, 1907).—**Kirmisson** reports a case of this rare condition. A child, aged 10 years, showed numerous nodules of a fusiform shape scattered throughout the muscles of the lower limbs. The lymphatic glands were also extensively involved. The nodules were found microscopically to consist of masses of epithelioid and giant cells surrounded by fibrous capsules. Bacteriological examination by smear, culture, and inoculation was, however, entirely negative. In No. 8 of the same periodical **Cornil** records two further cases. In one a nodule occurred in the masseter muscle, which, microscopically, was typical of tubercle and showed commencing caseation, while the other was of the more usual type—a cold abscess in the muscles of the thigh unconnected with any disease of the bone. T. R. WHIPHAM.

Peritonitis due to salpingitis in children ('*Archiv f. klin. Chirurg.*,' *Bd.* LXXXI).—Recognising the fact that a rapidly fatal peritonitis was associated in young girls with salpingitis, **Riedel** examined the histories of his appendicitis operations and found that out of forty-eight girls under ten years of age who had been operated upon for suspected appendicitis, in eight the peritonitis had originated in the Fallopian tubes. In females over ten there were only six instances of salpingitis in 348 cases. Salpingitic peritonitis is a very rapid and fatal affection. The infection extends from the uterus, but it is not certain how this is brought about. In the author's cases staphylococci and streptococci only and no gonococci were found; there was, moreover, no suspicion of abuse in any of the cases. The diagnosis from appendicitis is impossible, and an immediate operation is the only chance of saving life. There is an acute onset with high temperature, abdominal pain and distension, and malaise; later cyanosis and rapid wasting ensue. Examination of the abdomen reveals nothing distinctive, but on opening it the intestines are found to be covered with a fibrinous or purulent exudation. Pus is present in one of the Fallopian tubes, but the fimbria is free and the tube but slightly enlarged. The uterus is red and congested as a rule, though externally it appears normal. The bad prognosis of this condition should lead to a word of warning to the patient's friends before operating for suspected appendicitis in young girls.

T. R. WHIPHAM.

Intra-articular injections of the hip-joint for tubercular disease ('*Journ. de Med.*,' *May*, 1907).—**Calot** records some remarkable results in cases of tubercular disease of the hip treated by the method of intra-articular injections. All surgeons are familiar with the fact that in the majority of cases shortening complicated by faulty position and a greater or less degree of ankylosis occurs. Some cases do well, but in three fourths there is shortening and decided lameness. Suppurating cases are usually under treatment for two years and have even worse results. The author claims for his treatment that it checks the disease at its commencement and quiets down more advanced cases. It is applicable to all joint tuberculosis and should be carried out whether the disease is well established or just commencing—in fact, as soon as a positive diagnosis is made. The fluid used for the injections is of two kinds. In acute and comparatively mild forms of the disease the following is employed: Oil, 50 grm.; ether, 25 grm.; creasote, 3 grm.; iodoform 7 grm. While in more advanced cases he advises: Glycerine, 20 grm.; naphthol camphor, 3 grm.; 3 to 10 grm., according to age, being injected at each sitting. Injections should be made every five or six days for two months, and the case then allowed to rest for six months, while ordinary orthopædic measures are employed. For the injections a No. 2 Collin needle, 8 cm. long, with a short bevel is used, the point of election being below the crural arch, outside the course of the femoral vessels. Here the head of the femur can be palpated. The rule is as follows: In a child, aged 8 to 14 years, the puncture is made 2 or 2½ cm. below a horizontal line passing between the pubic spines and 2 or 2½ cm. outside the femoral artery, or in other words at a spot midway in a vertical line from the anterior superior spine of the ilium to the course of the femoral vessels. The needle must not be pushed in directly from before backwards, but must be inclined upward and from without inwards at an angle of about 15°. This allows the injection to enter the capsule of the joint below the head of the femur. When the bone has been felt the handle is forced transversely and downwards, keeping the point of the needle in contact with the bone. The injection is then made with some force so that the fluid may reach the lower parts of the acetabulum. The needle is then withdrawn and a swab held over the puncture for two or three minutes to prevent the fluid escaping. A tight bandage is then applied. Calot is of opinion that treatment consisting of rest and extension results, in the majority of cases, in decided shortening, and that the only way of improving the present methods is to inject into the joint such substances as will lessen the activity of the disease. T. R. Whipham.

The treatment of Hirschsprung's disease (*'Archiv. f. klin. Chirurg.,' Bd.* lxxxii).—According to **Roth,** congenital dilatation of the sigmoid flexure and descending colon (Hirschsprung's disease) is always fatal unless treated surgically. None of the operations which have been suggested have proved very satisfactory. The writer recently treated a case by a new method. The abdomen was opened in the middle line and the distended portion of the intestine drawn out. This was brought together in a loop, and the wound closed round it. Three days later the loop was resected, and twenty-five days later a clamp was applied to remove the spur. The fistula was subsequently closed by a plastic operation after an interval of three weeks. The results were good and no stricture followed. Any operation must be rapidly carried out, as the children bear the anæsthetic badly.

T. R. Whipham.

A case of nasal multilobular fibroma; removal; cure (*'Gaceta Médica Catalana,' July* 31, 1907).—**Suñe y Medan** relates the history of a boy, aged 13 years, who had suffered for some time from repeated epistaxes and buccal hæmorrhages, with left nasal obstruction and slight deafness of left ear. A series of operations at short intervals enabled him to remove by the nostril an enormous new growth with numerous prolongations and lobules. This had completely filled the left nasal fossa, one of its lobules completely blocking the posterior nares. The tumour consisted of fibrous tissue with much round-celled formation; lacunæ filled with blood corpuscles and networks of capillaries showed that it was a vascular fibroma with tendency to sarcomatous degeneration. M. D. Eder.

A successful operation on a case of suppurating polisinusitis (*'El Siglo Med.,' June* 22, 1907).—**Compaired** reports that a child, aged 4 years, was brought to him suffering from a painful swelling extending from the root of the nose to both frontal sinuses. Pus was exuding from two fistulæ opening at either side of the nose. There was a history of a blow on the forehead received about a year previously followed by headaches and sleeplessness. The child had a strumous appearance. Compaired and others who saw the patient believed there was a syphilitic taint, although there were no distinct signs of syphilis. The sound was passed cautiously into the ethmoidal region through the fistulæ; on the left side it was passed into the frontal region; much pus and detritus was thus given an exit. A few days later operation was performed; the whole anterior ethmoidal region was cleared out. The frontal region was rugose, forming on the left side a cavity about 1½ cm. deep. With some difficulty a loose sequestrum was removed. The fungous material was scraped away; the fistulous passages were likewise dealt with. A sufficient intra-nasal channel was formed and the wound closed. Some abscesses on the neck and face subsequently occurred, which required much care. The child is now well and convalescing in the country. M. D. EDER.

Foreign body in the œsophagus removed by œsophagoscopy (‘*El Siglo Med.*,’ *July* 15, 1907).—**Rodriguez** saw a child, under 5 years, who had just swallowed a foreign body. A skiagram showed it to be situated within the œsophagus at the level of the upper border of the sternum. The child was anæsthetised and **Goyanes**, employing Killian's straight tubes with Kirstein's lamp, was able, after drying the mucous membrane with cotton-wool, to see the body and to extract it with forceps. It had lodged in the narrowest portion of the gullet and the child was nearly suffocating when first seen. During the operation there was a moment when asphyxia seemed imminent, artificial respiration having to be resorted to before Goyanes could proceed. He recommends the method to the exclusion of all others, believing that other surgical measures, such as œsophagostomy, will be then unnecessary. The operation should be frequently practised on the cadaver. M. D. EDER.

Genu valgum of adolescence (‘*L'Echo Med.*,’ *July*, 1907).—**Le Fort**, in the course of a lecture, remarks that the seat of the lesion is just above the condyles of the femur; it is usually ascribed to delayed rickets and is due to an increase of weight with diminution of resistance, and this latter is seen not only in the bones but also in the ligaments. The pressure produces condensation of the bony tissue on the side of pressure, and rarefaction on the other. A vicious attitude is often the beginning of the deformity. Diminution of resistance may come on from many causes; sometimes there is a concealed osteo-myelitis; some speak of a local softening of bone—an osteo-myelitis. The author of the paper considers that hereditary syphilis may be a factor in some cases. He believed in MacEwen's operation on one limb at a time.

J. PORTER PARKINSON.

Announcement.

DR. GEORGE CARPENTER has been appointed Chairman of Council of The Society for the Study of Disease in Children.

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Original Articles.

THE CLINICAL ASPECTS OF LYMPHO-SARCOMA IN CHILDREN.

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That lympho-sarcoma as a clinical entity has not received the recognition it deserves is a fact but too obvious in the perusal of current text-books. In conjunction with other lymphatic enlargements lympho-sarcoma is comparatively rare, but this is no reason why the descriptions of it should be superlatively inexact or positively misleading. Nor is the confusion and want of definition confined to text-books. Monographs on malignant disease contain references to lympho-sarcoma which cannot claim to be in any degree a description of the disease and its symptoms.

Besides the difficulty of any considerable individual experience in this disease there still exists great confusion between it and lymph-adenoma, and the amount which has been written about the latter has undoubtedly detracted from the study of the former. One author writes (1): " We speak of primary malignant disease of the lymphatic glands under the name of lymph-adenoma or Hodgkin's disease, and the more rapid cases, especially those which are associated with metastatic growths, under the name of lympho-sarcoma, but we have not established a decided distinction between the two diseases." Whether speaking generally or clinically, this statement is so inaccurate as to be regretable, lest the author's acknowledged reputation be accepted as justification for the reiteration of such erroneous views.

Differentiation, as one would expect, is made more distinct by the pathologists. Hamilton (2) states that lympho-sarcomata "are found as primary tumours in the glands of the mediastina, particularly of the posterior." Sutherland (3), in Coat's manual, quotes Steven that "lympho-sarcoma is a local disease of a certain group of glands, usually the mediastinal ones, and showing chiefly a local malignancy." Bland-Sutton (4) writes: "Lympho-sarcoma consists of cells identical with those of the round-celled species (of sarcoma), but the cells are contained in delicate meshes—the tissue resembles that of lymph-glands. . . . These tumours occur in the superior mediastinum, in the sub-pleural and sub-peritoneal connective tissues at the base of the tongue, in the larynx, in the tonsil, and in the testis. Fortunately, sarcomata of this species are rare, for they are excessively malignant."

It thus appears that the condition is recognised rather on account of its pathological peculiarities than on account of its clinical characteristics, but I hope to show that the clinical syndrome of lympho-sarcoma is quite distinctive, though the differential diagnosis may at certain periods be difficult.

The incidence of lympho-sarcoma is infrequent, and out of eight hundred consecutive cases of glandular enlargement in my own experience I found it seven times in children and but four times in adults. It is probably more common in the former, is very rarely found in youths or old people, and is not a disease of infancy. I do not think that my experience is unique, that the disease is mostly found amongst young children, and I propose in this paper only to consider these cases, taking the consideration of the disease in adults elsewhere at another time.

Ashby and Wright (5) class lympho-sarcoma as synonymous with lymphoma and lymph-adenoma, and quote but one case, obviously a lympho-sarcoma. Owen (6) makes no suggestion of a possible predilection of lympho-sarcoma for children, and gives but a very imperfect account of one case which he only followed up for a month after the operation, and the chief danger which he apprehends is the immediate danger of the operation, whereas the chief danger lies undoubtedly in the tendency to recurrence.

Of the six cases which form the subject of this paper, four were males and two were females. The ages were—3 years; 3 years 4 months; 4 years 9 months; 6 years 4 months; 9 years 8 months; and 10 years. These, varying from three to ten years, give an average of slightly over six years.

It is noteworthy that the family histories are unimportant. In four that supplied by the parents was absolutely good. In one (Case 1), the patient was the youngest of thirteen, of whom six died in infancy, but no tuberculous dyscrasia in the family was admitted, and one, (Case 5), the sixth of seven, had one brother who had died of "consumption of the bowels." As regards their personal history, though none admitted any previous illness of consequence, there were, as might be expected, some of the illnesses liable to occur in childhood. Thus, one (Case 5) suffered from rickets earlier in life; one (Case 6) from measles; one (Case 3) from measles with conjunctivitis; one (Case 4) from measles and whooping cough eighteen months previously, followed by a rash and diarrhœa; and one (Case 2) was said never to have never been very strong. In one (Case 1) there was no history of illness at all.

As I have already suggested, the clinical picture is a fairly typical one. The first symptom is enlargement of the glands, and in all the cases which I have seen *in children* the glands first visibly affected were those in the neck. The affection is indeed primarily of the glands. For some time the child remains in perfect health with no pain and no discomfort. It is only after the usual domestic remedies have been employed without success, or when the enlargement of the glands has proceeded to a considerable extent, or when some symptom more alarming than mere enlargement of the glands sets in, that the child is brought for examination.

In these cases the duration of the glandular enlargement before advice was sought was: in one (Case 2) one month; in one (Case 6) two months; in two (Cases 1 and 3) six months; in one (Case 5) seven months; and in one (Case 4) eight months. The glandular enlargement is so insidious that it is difficult to say how long it has existed before other symptoms set in. Not more than two children were brought for advice on account of the glandular enlargement alone, and such cases are certainly the most difficult to diagnose—indeed I may say that without pathological examination the diagnosis cannot be, with any certainty, depended upon. The glands affected are several, they are in series and none is at this period of any great size. They are fairly soft and movable, are unattached and free from the skin, painless on manipulation, and uniform in consistence.

The children who were brought to me for symptoms other than mere enlargement of the glands had had a glandular enlargement for some time, but the parents had not decided to seek surgical advice before symptoms of unequivocal urgency ended the delay. These symptoms were: anorexia in three cases; "choking fits" and pain in the head in one case; anæmia in two cases; slight cough and debility in one case; and "faint turns" and breathlessness on exertion in one case. These symptoms are explained by the condition which exists, not merely by the condition which is visible. Though we find the enlargement of the glands first apparently in the neck, it seems that in most cases the disease starts in the mediastinum. Rose and Carless (7) note the condition as occurring in the glands "at the root of the neck," and point out that great pain is caused by the involvement of, and pressure on, adjacent nerves, and they, along with other writers, mention the tendency to ulceration of the skin over the glands as typical of the condition. My experience is that absence of pain is a most striking peculiarity, and I feel certain that involvement of the skin and ulceration is practically unknown, unless the local recurrence after operation involves the scar when ulceration is apt to follow.

In this stage the clinical picture is sufficiently distinct. Glandular enlargement in the neck from no obvious cause, painless, of uniform consistence, without attachment to the deep structures, and free from the skin. This condition is accompanied by, or presently associated with such symptoms as depend on pressure on the nerves or structures which can be reached by a tumour growing in the mediastinum.

The diagnosis is to be made from tuberculous and septic adenitis, and from lymph-adenoma. I would include Sutton's "simple irritative enlargement" as one form of septic adenitis. From septic adenitis lympho-sarcoma may be distinguished by the absence of any focus of inflammatory infection and by entire absence of signs of inflammation in the affected glands. The slow onset of the enlargement, the absence of heat, redness and pain, and the equal involvement of several glands are sufficient to prevent lympho-sarcoma being mistaken for a septic adenitis. The recognition of it from tuberculous adenitis is more difficult, especially where the affection is one of miliary tuberculosis of the glands, when the excised glands may have on section the naked-eye appearances which very closely simulate lympho-sarcoma. But in most cases the tuberculous adenitis affects to different degrees different glands. The glands are of more unequal size and not so similar in appearance or to the touch as in lympho-sarcoma, nor do they have the same uniformity of consistence. In some caseation is probably going on, or suppuration as the gland breaks down, and thus differences in the consistence arise in tuberculous glands which are not found in lympho-sarcoma. Lympho-sarcoma does not become adherent to the deeper structures until the affected gland has involved its capsule, before which the peri-adenitis is less in lympho-sarcoma than in tuberculous adenitis. There is seldom the anæmia, and never any cough, unless phthisis exists, nor the breathlessness on exertion, the giddy turns and faintness which are found so early in lympho-sarcoma in children.

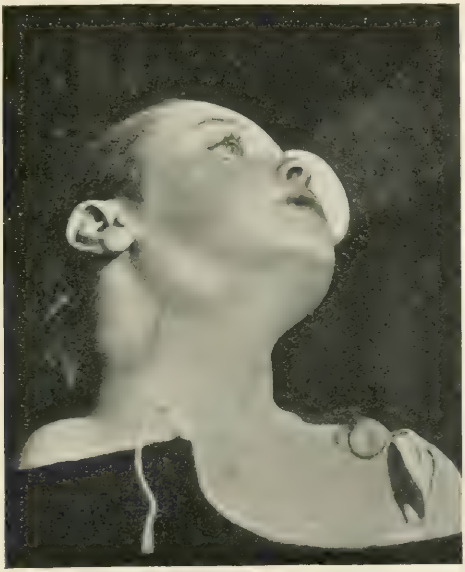
Of lymph-adenoma I have personal experience of only one case, and that an adult, not a child. It is a rare disease which gives but one case out of 800 glandular enlargements, and its frequency is much less than its literature would lead one to expect. The differentiation is well expressed by Lazarus Barlow (8), who writes: "The clinical features of lymph-adenoma are so different from those found along with lympho-sarcoma that it is desirable to differentiate between the two." (A very different opinion, evidently, to that held by the surgeons and some physicians!) "In lymph-adenoma the glands show no tendency to become fused into one mass as they do in the case of lympho-sarcoma, but on the contrary remain separate to the end. In lymph-adenoma there is a tendency over all lymphoid tissue in the body to share in the general over-growth, so that the condition has more resemblance to a hyperplasia than to a true tumour formation, but in lympho-sarcoma the change more probably affects one particular system of glands, *e. g.* those in the neck or those in the posterior mediastinum. In lymph-adenoma there is usually some increase in the size of the spleen, and at times this increase is very considerable. In lympho-sarcoma, on the other hand, the spleen need not be, and frequently is not, affected at all. The histological features of a lymph-adenomatous gland are such that it is impossible to distinguish a section taken from it from a section of a gland the seat of a simple adenitis; indeed it is often difficult to distinguish it from a section of a normal gland, whereas the lympho-sarcomatous tissue has certain features of its own."

There is not much stroma in an ordinary gland, but there is less in a lympho-sarcomatous one, which consists of a mass of small round cells like lymphocytes, with relatively large nuclei. There is a very fine stroma constituting a large mesh-work, but there is no intercellular substance, and there is a great want of vascularity about the growth.

Bramwell records that he met with twelve cases of lymph-adenoma in 14,777 consecutive medical cases, and that he is sure that some of these lymph-adenoma cases were tuberculous affections, so that the incidence of the disease is certainly slight. He discusses the differential diagnosis between tuberculous affection of the glands, lymph-adenoma, and lympho-sarcoma. He writes (9): "The distinction is often, I believe, impossible"—a statement to which I can scarcely subscribe. Lymph-adenoma occurs after thirty as a rule, while lympho-sarcoma is more common in children. Again, Bramwell writes: "The fact that lymphatic enlargement is limited to one or more groups of lymphatic glands which are in direct anatomical continuity, that the lymphatic swellings directly invade the surrounding tissues, that such organs as the mamma and the testicle are affected, and especially that the lymphatic enlargements are secondary to a primary tumour in these or in some of the internal organs, and that the spleen is not enlarged, are in favour of true malignant sarcoma of the lymphatic glands rather than of Hodgkin's disease; *vice versa*, widespread enlargement of several groups of lymphatic glands in different parts of the body, the absence of a primary tumour, enlargement of the spleen, the early development of cachexia, implication of the tonsils and other organs in which lymphoid tissue normally abounds, are in favour of Hodgkin's disease. The differential diagnosis of Hodgkin's disease and of true malignant sarcoma is especially difficult, in fact impossible during life in many cases in which the glandular enlargement is internal, *i. e.* in which the bronchial and mediastinal glands are affected. In the present position of therapeutics this point of differential diagnosis is of no importance to the practical physician; in such cases it is a matter of indifference, so far as prognosis and treatment are concerned, whether the glandular enlargement is due to a true malignant sarcoma or to Hodgkin's disease, for we are unable, by any therapeutic means with which we are acquainted at present, to cure either the one affection or the other." Notwithstanding the distinction of this author there are one or two points to which I would take exception. In differentiating between the two diseases the existence of a primary tumour in the mamma, testicle, or elsewhere should be omitted, for this is sufficient to remove the affection of the glands to that of "secondary affection," and is not, therefore, lympho-sarcoma, which is a true primary affection of lymphatic tissue. Nor do I agree with him any more than I do with Butlin that the diagnosis is a matter of indifference. Whatever it may be to the practical physician it ought to be of importance to the practical surgeon, who, though he would not attempt a radical cure by operation in lymph-adenoma, would, if he could recognise lympho-sarcoma soon enough, operate and thereby give the only chance of prolonging if not of saving life.

One might almost divide the lympho-sarcoma cases into two divisions, those in which no peri-adenitis exists, that is to say, in which the disease has not passed the capsule of the gland, and those in which the peri-adenitis is very marked. Fig. 1 is the photograph of a girl, aged 9 years and 8 months. The swelling had existed for six months. She was the second of five children; the others and the parents were well. Though she never had an illness further than measles followed by conjunctivitis, her health was described as fairly good previous to this illness. The glandular enlargement had steadily increased, and though there had never been any pain, she had gone a little off her food, had "faint turns" at school and was somewhat breathless on exertion. This child was well developed but somewhat pale. The glands were found enlarged in both anterior and posterior triangles and varying in size from a marble to a pigeon's egg. She had some nasal obstruction which my colleague, Mr. Guild, informed me was an idiopathic ozæna, but there were no signs of specific or tuberculous disease. A gland removed for exa-

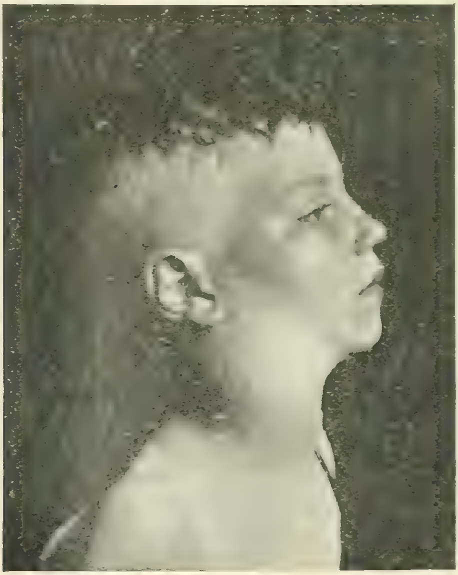
FIG. 1.



mination was reported by Professor Sutherland to have all the appearances of lympho-sarcoma. Two months later she had slight pain about the glands. She was anæmic, and, as before, breathless on exertion. Soon afterwards she began to lose flesh, and then lividity supervened and breathlessness increased. The spleen became enlarged and ascites set in, accompanied with œdema of the lower extremities, and she died of increasing weakness.

The other condition of lympho-sarcoma is shown in Fig. 2, which is of a boy, aged 6 years and 4 months, who had a swelling on the right side of the neck of eight months' duration. It lay in the line of the sterno-mastoid muscle. It was firm and uniform and one or two glands could be felt enlarged above and below it. It was adherent to the muscle and to the surrounding structures. The boy had got much thinner, had gone off his food, and had become pale and anæmic. An attempt was made to remove the entire mass, but within three weeks of his discharge from hospital there was evidence of local recurrence, with involvement of the scar. His neck and cheek became much swollen. His appetite got less and less. He became drowsy, slept much, and was easily tired, and within three months of the operation died.

Fig. 2.



After operation, the first thing noticed is that no matter how complete the removal of the glands may have seemed at the time of the operation, one or two previously unobserved glands appear about the site of operation. If anorexia and anæmia and other symptoms have not preceded the operation they certainly follow now. Debility and loss of flesh occur, breathlessness and faintness on exertion, and cough set in. There may be diarrhœa and at times vomiting. The spleen becomes involved and enlarged and ascites appears, accompanied later by œdema of the feet and legs. The child complains of increasing weakness and lassitude, is easily tired and sleeps much. The hands and face may get puffy, and the child gradually sinks and dies. My experience differs absolutely from Mr. Butlin's statement that death usually takes place from some inter-current disease.

In my cases the duration of the illness from start to finish was as follows: (Case 1) 13 months; (Case 2) 10 weeks; (Case 3) 14 months; (Case 4) 12 months; (Case 5) 12 months.

It is not my intention in this paper to plead the advisability of operation in lympho-sarcoma of the neck in children, but the fact that in one case (Case 6) the operation, performed before any constitutional symptoms or local signs other than the mere glandular enlargement had appeared, has been followed by seventeen months' absolute health and that the child is still perfectly well is surely a guarantee of its usefulness.

One's experience of the course which lympho-sarcoma runs when primarily appearing in the glands of the neck in children would justify the gravest fears as to the condition which would be developed within twenty months after its recognition. This was the period for which it had existed in the case under consideration.

It is material that the glandular affection first appeared towards the upper part of the neck, that it had only existed for three months before the operation, and that the operation was a comparatively easy though thorough one. It is obvious that if the affection had commenced in the glands whose enlargement was first noticed the conditions existed which were peculiarly suitable for complete eradication of the disease.

The progress of lympho-sarcoma is so rapid, the spread from gland to gland so certain, that it is not possible to deny that operation may have a deterrent effect on the progress of an otherwise hopeless disease.

The object of this paper has been to consider lympho-sarcoma as a clinical entity, describing its symptoms, its course, its complications, and its termination, but one cannot withhold the opinion that operation alone is the proper and only treatment, and the one which in a small proportion of cases, if carried out early and with sufficient thoroughness, may lead to a prolongation of life if not to a cure of the disease.

RESUMÉ OF CASES.

CASE 1.—Male, aged 10 years, was admitted into my ward on February the 20th, 1897, with enlarged cervical glands in left side of the neck of six months' duration. Youngest of thirteen, of whom six had died in infancy, but no tuberculous history could be definitely elicited.

No previous illness.

During the past few weeks before admission he had complained of choking fits and pain in the head.

The glands extended from the mastoid to the clavicle, were firm without definite fluctuation, and the healthy skin moved freely over them. They were mistaken for tuberculous glands and were excised on the 24th, the operation being a long one, occupying one hour and forty minutes. The removal involved practically the dissection of both triangles of the neck, some of the glands being removed from behind the manubrium sterni. The was no peri-adenitis, many of the glands "shelling" out easily. On section no suppurating points or caseating points were found, the cut surface being greyish, smooth and uniform. Some of the glands were as large as a tangerine orange. Some infection must have taken place during the long dissection because the wound did not heal without suppuration, and, as a matter of fact, it remained unhealed till death.

Within a month of the operation it was noted that glands had appeared behind the left angle of the jaw and on the sub-occipital region of the same side. He was put on arsenic on March the 12th, which was continued for two months, the maximum dose being twelve minims of the liq. arsenicalis thrice daily. This, however, caused vomiting and had to be halved, and, on the whole, there was no sign of any benefit from it.

By April the 5th he had developed noisy breathing at nights, and he was examined for me by Professor Stalker, who considered that the "physical signs were due to pressure on the trachea not intra-thoracic."

By May the 10th the glands on the right side of the neck were involved, as also were the axillary glands, and the spleen was easily palpable. About this time, too, he had some vomiting, which improved, as did his general condition, with the stopping of the arsenic he had been having. By the end of May the spleen was much enlarged and felt uneven on the surface. He became very anæmic and early in June the vomiting began again, though this time he was having no arsenic. He had no pain, but his breathing was harsh and characterised by a very frequent and short cough, consisting of a long-drawn noisy inspiration terminating in a short sharp cough. The intermittent vomiting continued, and towards the end of June he had once slight epistaxis. He next became unable to lie down with comfort and in July had to sit propped up in bed. The limbs and scrotum became œdematous and in the beginning of September he died.

Case 2.—Female, aged 3 years and 4 months. Admitted into my ward on April the 8th, 1904, with swellings on left side of neck of one month's duration. She was the eldest of three, parents and others well. Had never been very strong, but had had no severe illness.

The swellings had increased in size since they were first noticed, but had not grown much lately though they were said to be softer. She had gone off her food and had developed a slight cough.

On admission the anæmia and debility was most noticeable. There was no colour in the face and the skin generally was of a pearly white.

Examination of the chest negative. In the left posterior triangle were numerous glands not adherent to each other nor to the adjacent structures, of the size of a walnut at largest, and elastic and almost fluctuating to the touch.

Iron was given for a week and the glands were then excised. Considering the child's anæmic condition no extensive dissection was made, but the largest glands were shelled out. The wound healed by first intention, but even within a week the remaining glands were increased in size while the anæmia was much more marked. The weakness increasing she died on May the 21st, 1904.

Case 3.—Female, aged 9 years and 8 months, was admitted on May the 23rd, 1905, with swellings in the neck of six months' duration. She was the second of five children, others and parents well.

Though she had had no illnesses further than measles followed by conjunctivitis her health is described as "fairly good" previous to this illness. Since it first appeared the glandular enlargement had steadily increased, and though there had never been any pain she had lately gone off her food, had taken "faint turns" at school, and had become abnormally breathless on exertion.

On admission enlarged glands were found in both anterior and posterior triangles, and varied in size from a marble to a pigeon's egg. She was well-nourished but pale, and had no pain. She had some ozæna, and Mr. Guild, who examined the nasal passages for me, reported: "Both nasal passages are filled with inspissated crusts which have the typical odour of ozæna. On removal of these the passages are seen to be unduly patent, due to atrophy of mucous membrane. This is more marked on the right side. Condition is that of idiopathic ozæna; there is no sign of specific or tuberculous disease."

On May the 31st two glands were excised for examination and were reported by Professor Sutherland to have all the appearances of lympho-sarcoma.

The wounds healed by first intention and she went home on June the 6th. Within two months she was complaining of pain about the glands. She looked slightly anæmic and was, as before, breathless on exertion. She then began to lose flesh, and along with this came increasing lividity and breathlessness on exertion. The spleen enlarged and ascites set in, accompanied with œdema of the lower extremities, and on January the 21st, 1906, she died of increasing weakness, accompanied by symptoms of mitral regurgitation.

CASE 4.—Male, aged 6 years and 4 months, was admitted into my ward on May the 29th, 1905, complaining of swelling in the right side of the neck of eight months' duration.

He was the elder of two children, parents and other child being well. He had measles and whooping cough about eighteen months ago, and some time after that a "rash" broke out all over the head, face, chest and shoulders, and both ears "discharged." As the rash got better the swelling of the glands appeared in October. He had had no other illness. Lately the child had got thinner, had not taken his food well, and had become pale and anæmic.

On admission a large swelling was seen on the right side of the neck under and in the axis of the sterno-mastoid muscle. It was firm and uniform in consistency and one or two glands could be felt enlarged above it. He was markedly anæmic.

He was put on iron for a week, and the mass was then exposed by a T-shaped incision and the mass with the glands above and below was removed. There was much adhesion about the chief mass and it was evidently malignant. Professor Sutherland reported it to be a lympho-sarcoma.

The wound healed by first intention and he was discharged on June the 20th. By July the 15th there was evidence of local recurrence, the skin being reddened and adherent and the central part of the scar had broken down. Six weeks later the cheek and neck were much swollen. He had no pain but his appetite had gone. He was very easily tired and slept much. I did not see him again, but was informed that he had died on September the 24th, 1905.

Case 5.—Male, aged 3 years, was admitted into the children's ward on June the 9th, 1905, complaining of enlarged glands on left side of neck of seven or eight months' duration.

He was the sixth of seven children, of whom the oldest died of "consumption of the bowels," and the fourth of "teething." The others and parents were well.

He had been a bottle-fed baby, and at one time had rickets with a slight genu valgum corrected by ambulant splints.

There were numerous enlarged glands in both the anterior and posterior triangles on the left side, free from the skin and of uniform consistence. He was of good colour and looked well.

On June the 12th the glands were excised, the dissection being long and thorough as their lympho-sarcomatous nature was obvious, though the precaution was taken of having this confirmed by subsequent pathological examination.

The wound healed by first intention and he went home on June the 20th. I did not see him again until September the 16th when he still looked and felt perfectly well, but there was a gland about the size of a marble at the angle of the jaw, and a series above the outer half of the clavicle.

In November he began to be easily tired and changed colour readily. About the middle of January, though he still took his food well he had developed a cough and avoided the least fatigue and was disinclined for any exertion. At the end of that month he had some diarrhœa and vomiting for a day or two, which passed off and may not have been connected with his lympho-sarcoma. By May he was much thinner, was off his food and very weak, being on some days "hardly able to walk." He was easily put out of breath on exertion and was very thirsty. Slept a good deal but moaned in his sleep. There were several glands enlarged above the right clavicle.

On June the 11th he was still thinner and much paler. He sweated at night and was very drowsy. His appetite was poor and at times he had a green diarrhœa. He was very restless at night in his sleep. The glandular enlargement of the neck was not of a size to cause any subjective symptoms.

The weakness increased and latterly he lay, a poor, miserable object hardly able to move. He became emaciated to a degree, with œdematous feet, swollen abdomen, a marked anæmia and a constant short little cough, and from the increasing weakness he died on October the 7th, 1906.

Case 6.—Male, aged 4 years and 9 months, came under my observation on May the 10th, 1906, with swellings in the left neck of three months' duration.

He was the sixth of seven children, of whom the second child had died, aged four months, of convulsions, but the others and the parents were well. He had had no previous illness except measles.

On admission he was well-nourished and had no complaints. There were many glands enlarged in the left side of the neck in both triangles. They were all of much the same size, separate, free, soft, and not adherent to the skin. The condition was recognised as lympho-sarcoma and the glands were excised on May the 11th.

The wound healed by first intention and he went home seventeen days later.

The pathological examination of the glands confirmed the diagnosis of lympho-sarcoma.

On October the 27th, 1906, I found him well. He took his food well, was not at school and was not thinner. He was able to run about and play with the rest of the children. Had slight impetigo contagiosa, and possibly from this several small enlarged glands could be felt under the chin. There was, however, an enlarged gland under the jaw in the left submaxillary region, which could not be so explained, and there was no splenic enlargement.

This boy, when last seen on October the 2nd, 1907, seventeen months after the operation, was found in excellent health, bright and active, well nourished and of ruddy complexion. He took his food well and was to all appearance a perfectly healthy child, with the exception of three separate and but slightly enlarged glands in the left sub-maxillary region.

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CEREBRO-SPINAL MENINGITIS.*

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All cases of meningitis are, to a certain extent, cerebro-spinal, but the degree of spinal extension is very variable. Strict examination shows that the cortex of the brain is also involved, and that meningo-encephalitis of the brain and spinal cord is the most accurate, though unwieldy, name for the disease.

The division into meningitis of the convexity and meningitis of base is of little value, for both are frequently involved. Nor is it much use talking of primary and secondary varieties, since the source of infection may be easily overlooked. The most practical classification is based on the bacteriological findings. Thus we may subdivide these cases into three main groups:

(1) Tuberculous meningitis.

(2) Septic or suppurative meningitis, including those due to the pneumococcus, *Streptococcus pyogenes*, staphylococci, and numerous other organisms.

(3) Cerebro-spinal meningitis, which may be epidemic in character, sporadic, or of the type known under the names of post-basic, simple, posterior, basal meningitis of infants, chronic basilar meningitis, or the cervical opisthotonos of infants.

In order to estimate the frequency of the different varieties I have looked through the notes of the last 125 cases which have been under my care in children under ten years of age. I have left out of consideration those cases in which meningitic symptoms occurred as part of influenza and other diseases, ending in recovery, on account of a certain element of doubt in the diagnosis. In most of these 125 cases the diagnosis was confirmed by the results of lumbar puncture during life or by post-mortem examination. The statistics must not be accepted as absolutely accurate, for different pathologists may vary in the importance which they attach to the presence of muco-pus in the middle ear, and they may even make mistakes in determining the variety of micro-organism present in the cerebro-spinal fluid and exudates. Only those cases in which there was no element of doubt about the existence of ear disease have been ascribed to that cause. I am convinced that ear disease is not nearly as frequent a cause of meningitis in early life as is commonly supposed. The presence of the pneumococcus in the middle ear and in the cerebro-spinal exudates by no means proves that the meningitis is secondary to the ear mischief. In the great majority of such cases I believe that the ear trouble is part of a general blood infection or is due to extension from the meninges. A history of injury is not infrequent in cases of meningitis, but in only two could I definitely ascribe the disease to the injury. A boy recovered from meningitis secondary to a blow on the head by a cricket-ball. A girl died as the result of a fall on the head.

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* Read at the Provincial Meeting of The Society for the Study of Disease in Children at Bedford, June the 15th, 1907.

Of the 125 cases 71 were diagnosed as tuberculous : males 38, females 33. Of these 54 were verified by post-mortem examination.

Cerebro-spinal meningitis was diagnosed in 36 cases : males 17, females 19. The diagnosis was verified post mortem in 20 out of 24 which ended fatally, and in some of the others by lumbar puncture during life.

Pneumococcal meningitis proved fatal in 10 out of 11 cases : males 8, females 3. In all the diagnosis was confirmed at autopsy.

Two boys and 3 girls died from meningitis secondary to ear disease.

No less than 111 died, and the diagnosis was verified post mortem in 88 of them. The sex incidence showed a total of 66 males to 59 females.

Certain observations on the age incidence are of value :

Age Incidence.

	0–6 months.	6–12 months.	1–2 years.	2 3 years.	3–4 years.	4–5 years.
Cerebro-spinal . . .	15	11	4	3	2	0
Pneumococcal . . .	5	3	2	0	1	0
Tuberculous	3	7	16	13	10	5

No less than 26 out of 36 cerebro-spinal cases occurred in infants under one year of age, and only one was over four years old. The cases were more numerous during the first than the second six months of life. The youngest child was fourteen days old at the onset.

Pneumococcal meningitis shows a similarly marked preponderance in frequency during the first year of life, 8 out of 11 cases occurring at this age. The youngest of these died on the third day of life.

On the other hand tuberculous meningitis is most common in the second year, and occurred with about equal frequency in the first, third, and fourth years, and was much less common after the fifth year. Of the 71 cases 54 were under five years of age. Two thirds of the cases in the first two years of life were from six to eighteen months of age.

Hence we may conclude that meningitis during the first six months of life is most commonly non-tuberculous; in the second six months it is non-tuberculous in about two thirds of the cases; and that after the first year the tubercle bacillus is by far the most common cause. The youngest child with tuberculous meningitis was three months old. Of the cases due to ear disease two were in their second year and three were between six and eight years old.

The *seasonal incidence* of tuberculous meningitis was about the same in each of the four quarters of the year, but there was some preponderance in the months of June and July, 19 out of 66 cases beginning in these months. The cerebro-spinal cases showed no special seasonal incidence. In each of the months of May, August, and December there was 1 case; 2 in June; 3 each in February, September, and November; 4 each in January, March, July, and October; and six in April. Half of the 36 cases have been seen in the last two and a half years; 4 of them in this year. Out of 9 cases in 1905, 2 occurred in one month and not more than 1 in any other month. There was nothing in the monthly incidence of cases to suggest that the disease was becoming epidemic, and there is no indication at present of the beginning of an epidemic in London.

Pneumococcal meningitis is fairly common in infancy. It is usually secondary to bronchitis, broncho-pneumonia, and pneumonia, empyema and other lung diseases, and even to acute pneumococcal endocarditis. The association with pneumococcal infection of the middle ear has already been referred to. Primary cases have been recorded. In 1903 I reported one at a meeting of this Society ('Reports,' vol. iii, p. 318). The fever ran a course like that of acute lobar pneumonia and ended by crisis. The pneumococcus was obtained by lumbar puncture. Capter ('Medical Record,' 1905) reported three cases, the pneumococcus being found in the cerebro-spinal fluid. This variety of meningitis is usually severe and rapidly fatal, though occasionally it is mild. Sometimes it is latent, not suspected during life, but found extensively distributed after death. The exudation is apt to form a thick layer over the convexity, and is rarely or never limited to the base of the brain.

Streptococcal meningitis is usually due to ear disease or pyæmic affections. The streptococcus comes, in frequency, next to the pneumococcus as the cause of acute meningitis especially affecting the convexity of the brain. The exudate is very like that due to the pneumococcus, but, if secondary to ear trouble, it may be somewhat unilaterally distributed.

Cerebro-spinal meningitis.—Next let us turn to the consideration of those varieties of meningitis which I have included under the name of "cerebro-spinal meningitis," and the relationship which they bear to each other.

The epidemic variety has a remarkable preponderance in early life. In some epidemics as many as 90 per cent. of the patients are under fifteen years of age.

It is seen in two distinct forms, the toxæmic and the meningitic, and we must consider how far sporadic cases and those of post-basic meningitis in infancy conform to these types. We must also study the bacteriology of these different varieties, and the clinical course and sequelæ.

In the toxæmic type the symptoms are those of profound blood-poisoning. The attack is fulminating or malignant, and often associated with a purpuric rash. Hence the disease is called "spotted fever" or "malignant purpuric fever." Purpura is by no means a constant feature, being present in 10 per cent. or less of the cases. The onset is usually acute, with headache, chilliness, and convulsions, great depression and rapid development of a state of stupor, coma, or delirium. Coma may ensue in a few hours. Severe cases occur sporadically and may be identical in character with those of the epidemic type, whether toxæmic or meningitic. Thus a well-nourished, breast-fed child, aged 4 months, had pain in the stomach, became feverish, and in a few hours exhibited purpuric spots, retracted head, and a stuporous condition. Death ensued within thirty hours from the onset.

Another child, aged 18 months, complained of pain in the ankle, and in a few hours was seized with convulsions and high fever. The fits went on for nearly twenty-four hours and the child was almost moribund, with all the symptoms of profound toxæmia, notably extreme dyspnœa, rapid and thready pulse, and high fever. Recovering from the convulsive seizures he developed the characteristic signs of basal meningitis, had a markedly hectic temperature for over a month, and eventually recovered completely, except for the loss of an eye from metastatic choroiditis or pseudo-glioma. In comparison with this case I may mention that shortly afterwards I had under my care a typical case of post-basic meningitis in an infant, who also developed a similar affection of the eye, rapidly wasted and died.

Just as severe sporadic cases may occur which are indistinguishable clinically from those occurring in epidemics, so in the course of an epidemic mild cases are seen which, in the absence of an epidemic, would be diagnosed as post-basic meningitis. In other words there is no dividing line which enables us to separate these varieties. The meningitic type of the epidemic variety is similar to the ordinary post-basic meningitis clinically in its course, complications and sequelæ, and pathologically.

The only distinction between these affections lies in the epidemic character and the virulence. It might be urged, as a distinctive feature, that the sporadic cases and those of post-basic meningitis are not infectious or contagious, but we have little proof that the epidemic variety is spread by direct infection; several members of a household may be attacked, but it is obvious that they are living under similar conditions. The same remark applies to outbreaks in barracks, schools, etc. For comparison I may refer to outbreaks of pneumonic fever under similar conditions. In fact, some epidemics of meningitis appear to be due to the pneumococcus. Sporadic cases even of a virulent type do not act as foci of infection. Hence, if the disease is contagious, it must be due to some special virulence of the infective agent, increased by concentration of the poison and lowered vitality of the subject, as in typhus fever and pneumonia. It is stated that in Philadelphia infection spread to and killed a doctor, and that in the epidemic in 1904 in New York it spread to several nurses. The course of the disease may be divided into three stages, with approximately definite pathological changes and associated clinical symptoms.

In the first stage there is intense congestion, sometimes hæmorrhagic, of the pia-arachnoid and grey matter of the cortex. To this are due the headache, convulsions, vomiting and mental state. In the second stage there is exudation of lymph or pus between the pia and arachnoid, with accumulation in the sulci of the cortex, the lymph cisterns at the base of the brain, the subarachnoid space of the spinal cord, and, by extension through the foramen of Magendie, the ventricles of the brain.

In the third stage the accumulation of fluid causes hydrocephalus and symptoms thereof, namely, continued retraction of the head, vomiting, swollen discs, tense fontanelle, separated cranial sutures, spasmodic retraction of the upper eyelids, and impaired cerebral function. The fluid is not necessarily purulent or even sero-purulent. In mild cases it is constantly quite clear. Probably almost all cases of hydrocephalus in infants are secondary to a past mild, and perhaps unrecognised, basal meningitis.

It is not necessary to enter fully into the symptomatology, but certain symptoms deserve a little consideration.

In all types the onset may be sudden or gradual. It is more often sudden than gradual in the epidemic type, while the reverse holds good for the sporadic cases and those called post-basic.

Headache is much less common in children than in adults, and is by no means a characteristic sign in infancy. This probably indicates that the headache is due to increased tension rather than to actual encephalitis. Rigidity of the neck muscles and retraction of the head are most constant signs. Herpes, usually on the fourth day, is common in the epidemic type, and may occur in as many as 20 per cent. Conjunctivitis is not uncommon.

The rigidity of the neck muscles and retraction of the head are signs of meningeal inflammation, and are developed in order to prevent movement of the meninges. Besides being common early symptoms, they are usually the last to disappear, though they may vary in degree from day to day.

If the inflammation has spread down the cord Kernig's sign is likely to be present. Stretching the sciatic nerve, evolved in the process of eliciting this sign, causes movement of the spinal meninges. It is less often present in tuberculous than in other varieties ot meningitis.

Vomiting is more common in this variety than in tuberculous meningitis, and so, too, is diarrhœa. The vomiting may be continuous throughout, or may cease as the child improves, reappearing with relapse or with the onset of hydrocephalus. The bowels are very rarely constipated, whereas constipation is a common feature of tuberculous meningitis.

The pulse rate is increased in frequency, especially in severe attacks, and in late stages it may become irregular and infrequent on account of hydrocephalus. In tuberculous meningitis, on the other hand, a slow, infrequent and irregular pulse is common in the early stages, and considerable increase in frequency is a common sign of an early termination.

The respirations present similar differences, and vary with the degree of toxæmia. The temperature is most variable, but usually runs a higher course and is more hectic in type than in the tuberculous affection. As a rule it ranges from 101° F. to 105° F., and may become hyperpyrexial, though ante-mortem hyperpyrexia is by no means as common as in the tuberculous form. The temperature is not of very great value in diagnosis or prognosis. It may continue hectic for two or three months, yet terminate in recovery. A falling temperature is a favourable sign, if it is associated with cessation of vomiting and increase in weight. Otherwise it may indicate commencing hydrocephalus.

Lumbar puncture may yield evidence of absolute diagnostic certainty. In tuberculous meningitis the cerebro-spinal fluid is clear, and may contain an excess of lymphocytes and perhaps tubercle bacilli. In cerebro-spinal meningitis it is likely to be cloudy, and contains an excess of polymorphonuclear cells and the meningococcus. In the hydrocephalic stage the fluid may be indistinguishable from that of the tuberculous disease.

In the diagnosis of meningitis we have to remember that the acute onset with vomiting and cerebral symptoms may be mistaken for that of acute infectious disease, and that meningitis is frequently diagnosed when it does not exist. Scarlet fever, pneumonia, influenza, and typhus are the chief diseases likely to be mistaken for it at the onset. Prolonged febrile cases, with slight meningitic signs, may simulate typhoid fever. Retraction of the head may also occur from reflex causes, from inflamed cervical glands, post-pharyngeal abscess, and cervical caries. By itself it is not diagnostic. The importance of the differential diagnosis of the variety of meningitis lies in the fact that tuberculous meningitis may be regarded as invariably fatal, whereas other varieties offer a fair prospect of recovery.

The chief diagnostic points on which to lay stress are the age, mode of onset, character of pulse, respiration and temperature, the vomiting, diarrhœa or constipation, retraction of the head, degree of irritability, optic neuritis, herpetic rash and purpura, Kernig's sign, the results of lumbar puncture, and the duration. The *meningococcus* is found in all the varieties included under the head of cerebro-spinal meningitis. It is a markedly intra-cellular organism, staphylococcal in character, and Gram-negative. Under the microscope it is seen in pairs, tetrads, as single cocci and in groups. Its vitality is low. It will not grow below 25° C., and is rapidly killed by drying and sunlight. It grows best on nutrose ascitic agar, forming in twenty-four hours at 37° C. smooth, moist, grey, translucent, circular or oval colonies with regular outline. Flexner states that its vitality is increased by adding calcium carbonate to the medium. And according to W. H. Park it is more readily cultivated if sheep serum is used instead of human serum.

Its virulence is variable and usually low. The poison is intra-cellular. The disease can be readily induced in monkeys by lumbar puncture and injection, and the exudation is uniformly basal, and rarely on the vertex. The inflammation extends to the ethmoid bones and nasal fossa (Flexner), and this fact may be adduced as an argument against the theory of nasal infection.

The organism has been found by Elser (1905) in the blood in ten out of forty-one cases, and its presence in the blood is of very bad omen. It has been found in all forms of the cerebro-spinal meningitis, whether epidemic, sporadic, or post-basic. Slight differences are sometimes noted, but I have little doubt that these are insufficient to warrant them being regarded as different organisms. Occasionally other organisms are also found, alone, or in conjunction with the meningococcus. Thus, I have found it in a case of tuberculous meningitis. An organism called the *Diplococcus crassus* was found in some of the cases of the Silesian epidemic. A Gram-positive organism has also been found.

The meningococcus is very like the gonococcus, the pneumococcus, and the *Micrococcus catarrhalis* commonly found in the nose. From the latter it is distinguished by being smaller, and by the fact that it produces an acid reaction in glucose and maltose media. According to some observers acid fermentation occurs in galactose and saccharose media, but this is denied by others. v. Lingelsheim ('Deutsch. med. Woch.,' 1905, No. 26, p. 31), isolated seven Gram-negative cocci from the naso-pharynx in the course of the Silesian epidemic.

Treatment.—Assuming the possibility of nasal infection it is advisable to disinfect the nose as a preventative measure. The organism was found in the nasal secretion in 23 per cent. of 635 cases in the Silesian epidemic. It is rapidly destroyed by 1 in 800 carbolic lotion. In Vienna a liquid containing "Pyocyanase," a preparation from the *Bacillus pyocyaneus*, is used as a spray, douche, or for swabbing the nose and naso-pharynx. According to Jehle's experiments it destroys the meningococcus in forty-eight hours. Good hygiene, especially ventilation, and liberal diet are most important.

Ruppel's serum, in doses of 5 c.c. *sub cutem*, has been given as a protective, and in doses of 25 c.c. is given to cure the disease. It was used by Robb, of Belfast ('British Medical Journal,' 1907, vol. i, p. 1120), in four cases, and all died. He gave Kolle's serum in forty-four cases and 66 per cent. died. Burroughs and Wellcome's serum was also unsatisfactory. Robb's mortality was 65 per cent. of 192 cases, all except five occurring in three months, January to April. So far the serum treatment has proved unsatisfactory, and reliance must be placed on careful feeding and nursing. Cold to the head and hot baths afford relief to convulsions, extreme opisthotonos and hyperæsthesia. Small doses of phenacetin, antipyrin, and opium are useful. Quiet and rest are imperative. Injections of lysol, 1 per cent. solution, into the spinal canal have been tried in Lisbon. The removal of fluid by lumbar puncture is distinctly beneficial if there is any indication of intra-cranial pressure. Vaccine treatment has not yet been thoroughly tried.

A CASE OF PNEUMOCOCCAL INFECTION OF SEROUS MEMBRANES.

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This case, recently under my care, exhibiting pneumococcal infection of the pericardium, peritoneum, and pleuræ, and presenting some difficulty in diagnosis, seems worthy of publication. The following are briefly the notes of the case:

Ethel W—, aged 4½ years.

Family history.—Grandmother and aunt died of tuberculosis twenty and three years ago respectively. One brother suffers from bronchitis, and two brothers had died from pneumonia.

Personal history.—Measles followed by pneumonia two years ago.

Present illness.—The illness commenced acutely on July the 28th, 1907, with fever, rapid pulse, and increased respiratory frequency. During the next few days the signs of double pneumonia were evident. A crisis occurred on the fifth day of the illness, and the symptoms became much ameliorated. Although the temperature remained normal, or nearly so, the child did not improve satisfactorily. The dulness at the base of the lungs persisted, and moist sounds were heard all over the chest, except over the apex of the right lung, where the breathing was markedly "blowing" in character. These signs continued, and towards the end of the second week of the illness it was noted that the abdomen was somewhat swollen. The child lost flesh; the signs in the chest did not clear up; the breathing became gradually more embarrassed; the abdomen continued to swell. The temperature was practically normal.

On admission into hospital on September the 2nd, 1907 (about five weeks after the commencement of the illness), the condition was as follows:

The child was thin and generally pale. She had considerable dyspnœa and cyanosis of the lips. Temperature 100·2° F.; pulse 140 to the minute.

Chest.—The heart's apex beat could neither be seen nor felt. The heart sounds were best heard over the left edge of the sternum about the level of the fourth costal cartilage.

Anteriorly.—Breath sounds were distinct on the *right* side as low as the third rib; below this there was dulness to percussion and the sounds were very faint. On the *left* side there was marked dulness and the breath sounds were very faint.

Posteriorly there was dulness over *both* lungs as high as the level of the mid-scapular region; vocal fremitus was absent over this area and the breath sounds were very faint.

Abdomen.—The abdomen was considerably distended. This distension was caused by fluid as shown by shape, dulness, and "fluid thrill."

Immediately on admission both sides of the chest were explored. The exploration of the *right* side was negative, but from the *left* chest pus was withdrawn.

Two hours later, under chloroform, a needle was again put in the chest in the mid-axillary line in the seventh intercostal space and a few drops of pus were withdrawn; a rib was resected and the parietal pleura incised. The latter was much thickened, and immediately under this incision, the surface of the lung was covered over a small area with lymph, but no further pus was found. By inserting a finger into the pleural cavity and gently sweeping it around in all directions no pus could be found. It was apparent then that on each occasion on which the chest had been explored a small and the same abscess cavity had been entered and had been evacuated previous to the rib resection. The exposed lung appeared pneumonic. A small gauze drain was inserted into the wound, the greater part of which was sown up.

The child stood this operation very badly: she became very collapsed, the cyanosis increased, and the pulse was hardly perceptible. Various restoratives were administered and the child rallied somewhat. Acting on the assumption that some of the dyspnœa may have been due to the pressure on the lungs by the fluid in the abdomen, paracentesis of the latter was performed about twenty-four hours after the operation and some thirteen ounces of pus withdrawn. This improved the breathing somewhat, and some few hours later, under chloroform, the abdomen was opened in the mid-line below the umbilicus and a large quantity of pus, some three or four pints, let out. The pus was very thick and of a yellowish-green colour. Further incisions were made in each loin and drainage tubes were inserted in each wound. This operation was borne much better than the one of the previous day.

Following this operation there was no real improvement in the child's condition; the abdomen drained satisfactorily; the cyanosis persisted without the slightest improvement; dyspnœa was present to a similar degree as before. The temperature did not reach above 99·6° F. Death occurred suddenly two days later.

ABSTRACT OF THE POST-MORTEM REPORT.

The *brain* and *meninges* were normal.

The *pericardium* was distended with sixteen ounces of thick greenish pus; both the parietal and visceral layers were thickened and covered with thick flakes of lymph.

The *larynx, trachea,* and *bronchi* were normal.

Pleuræ.—There was generalised pleurisy on both sides, with numerous recent adhesions, easily breaking down except at the borders, where they were stronger.

A small collection of pus, about two drachms, was present in the *left* pleural cavity posteriorly at the level of the ninth rib; this was isolated by recent adhesions. A similar collection was present on the *right* side about the level of the seventh rib in the posterior scapular line.

Lungs.—Right: The upper lobe showed some œdema; middle and lower lobes very markedly œdematous. *Left:* The upper lobe fairly normal save for some œdema; lower lobe very congested, but no evident consolidation.

Peritoneum.—On opening the abdomen a uniformly thick layer of lymph covered practically all the intestines; the latter were everywhere loosely bound together by recent adhesions, most marked in the pelvis, the neighbourhood of the spleen, and the outer side of the cæcum and ascending colon. Here and there were pockets of pus quite isolated by these adhesions; the largest of these contained about three drachms, and was situated in the neighbourhood of the spleen.

The *stomach* and *duodenum* were normal.

The intestines, both large and small, including the appendix, showed inflammatory changes in the peritoneal coat, but otherwise were healthy; the mucosa was intact and in no place was there any evidence that there had been any inflammatory changes of the mucous membrane.

The *liver* and *spleen* showed some lymph on their peritoneal coats, but otherwise were normal.

The pelvic peritoneum had suffered severely in the general peritonitis, but the *pelvic organs* themselves, viz. the *uterus* and *appendages*, were normal.

The *urinary organs* were sound.

There was no enlargement of any lymphatic glands.

Cultures of the pus from the pleuræ, pericardium, and peritoneum gave a pure culture of *pneumococcus*.

This case seems to have been one of primary pneumonia with secondary infection of the pleuræ, pericardium, and peritoneum. The history given of the case before admission into hospital suggests a pneumonia, but the pneumonic process had disappeared from the lungs before death. There was no evidence to show that the abdomen had become infected by direct extension from the pleura. The diaphragm did not show any disease, and the pelvic peritoneum was more extensively diseased than that of the upper abdomen. The peritoneum apparently was not involved secondary to intestinal infection. In no place was there any lesion of the mucosa of the gastro-intestinal tract. Neither was the peritoneal infection secondary to disease of the pelvic organs, for the latter were quite sound. The peritoneum seemed to have become involved as a primary abdominal infection, similar, apparently, to the pericardium.

There was no clinical evidence of any gastro-intestinal infection. There had never been any gastric symptoms, nor any diarrhœa, both of which are so common to pneumococcal peritonitis.

The pericarditis was entirely overlooked. The dyspnœa was thought on admission to be due to an empyema, since pus had been found in the left chest. When it was seen that this was merely a few drops of pus which one had been fortunate enough to find, it was considered to be due to bilateral pulmonary disease, increased possibly by the pressure of the fluid in the abdomen on the diaphragm and bases of the lungs. With this idea the abdomen was freely opened, but without relief.

The incisions I made in the abdomen, viz. a median sub-umbilical one and one in each loin, seemed to drain the peritoneal cavity most effectually. At the autopsy there was hardly any fluid left, and none in the general peritoneal cavity. Here and there was a tiny pocket of pus shut off by recent adhesions. The very thick character of the pus and the very thick and tenacious lymph seem to make it very difficult to drain the entire abdomen satisfactorily in this disease, and what would have happened to the isolated pockets of pus it is impossible to say. Presumably residual abscesses would have required further surgical interference.

The Society for the Study of Disease in Children.

A meeting of this Society was held on October the 18th, at No. 11, Chandos Street, W., Mr. R. Clement Lucas in the chair.

A Paper on the Simulation of some of the Symptoms of Primary Amaurotic Idiocy by a Tumour of the Interpeduncular Space, by Dr. E. C. Williams (Bristol), was read. The patient was a girl, aged 15 months; for three months she had been gradually failing to take notice of objects, and had been getting weaker. On admission the child lay quite still and motionless, was somnolent, and not disturbed by any sounds, even though quite close to her ears. Her eyes were firmly closed, and when sat up in bed her head rolled either backwards or to one side. The arms were slightly spastic, the wrist-joint was flexed, and there were slight athetoid movements of the fingers. The legs were spastic and remained extended when the patient was elevated from the bed. The knee-jerks and plantar reflexes were exaggerated on admission, but towards the end the spacticity decreased and nearly disappeared. Babinski's sign was present, sensation was diminished. The pupils were dilated and fixed, the right was divergent. There were no fundal changes, the disc and macula both being normal. The child died nineteen days after admission from œdema of the lungs and heart failure. Post mortem a cauliflower growth the size of a walnut was found springing from the pituitary body; microscopical examination showed it to be a round-celled sarcoma. There was also a small, similar growth in the parietal region. The case resembled primary amaurotic idiocy in the paralysis of the greater part of the body and the muscles of the neck, in the diminution of vision, leading to absolute blindness, and in the marasmus and fatal termination. It differed in that it did not present the characteristic fundal changes and in its more rapid progress.

A Case of Associated Movements of the Upper Eyelid and Jaw was shown by Mr. Sydney Stephenson. There was slight ptosis on the left side, and when the child moved the jaw the lid of the unaffected eye showed rhythmical movements, upwards and downwards. An unusual feature in his case was that the movements affected the eye which had no ptosis. The explanation commonly received assumed that the levator palpebræ superioris was not supplied entirely from the third nerve nucleus, but also by fibres from the fifth nerve nucleus, so that when certain of the muscles of mastication were thrown into action the upper lid participated in the movements of the jaw.

The Chairman (Mr. R. Clement Lucas) asked what was the cause of the ptosis, and of the third nerve trouble with which it was associated. One knew that there were certain associated movements which were not always necessarily the direct results of defective nerve supply. Movements sometimes took place in associated ways as the result of habit.

Dr. L. A. Clutterbuck asked whether the condition might not possibly be due to associated movement through the sympathetic. Congenital ptosis was often due to affection of the sympathetic fibres. The upper eyelid was partially supplied by the sympathetic, and congenital ptosis was due to that rather than to the third nerve.

Mr. Stephenson replied that the ptosis was congenital. Certain post-mortem examinations of cases of congenital ptosis had shown that the levator palpebræ superioris was absent or ill-developed.

A Case of Tuberculosis of the Iris and Ciliary Body was shown with reference to Calmette's ophthalmo-reaction by Mr. Sydney Stephenson. The eye had been inflamed for six months. The anterior chamber of the left eye was more or less filled with solid-looking, yellowish-grey exudation, so that a faint indication only of the position of the pupil could be obtained. The eye was reddened, flushed easily, and dreaded light somewhat.

Dr. Porter Parkinson asked whether any explanation was advanced as to the mode in which the agent acted.

Dr. Edmund Cautley asked whether the substance produced any reaction whatever in normal subjects. He believed that in Calmette's original observation he stated that a slight reaction occurred in normal people, which was not so severe as in tubercular patients.

Mr. Stephenson replied that he had not seen any reaction in people who were not the subjects of tuberculosis, though it had been referred to by writers on the subject.

A Case of Congenital Ptosis treated by Motais' Operation of Tendon Transplantation, very slightly modified, was shown by Mr. Sydney Stephenson. The patient was a girl, aged 2 years and 10 months. None of her nine brothers and sisters had any deformity. Family history unimportant. The left eye was the subject of incomplete ptosis, the pupil being practically covered by the drooping upper eyelid. There was no epicanthus, and no associated deformities. Upward movements of the eyeball were good, and no synkinetic movements were noted. The superior rectus was divided into two parts; the outer was stitched into the upper eyelid and the knots tied on the skin surface of the latter. Seven days later the sutures were removed.

A Case of Lupus Vulgaris of the Face due to Inoculation by a Finger-nail was shown by Mr. George Pernet. It was the result of an accidental scratch by another child.

The Chairman (Mr. R. Clement Lucas) alluded to three cases which had been under his care. One man scraped his knuckle by striking a man in the mouth; another man was bitten on the forefinger; the third case followed circumcision. He asked whether Mr. Pernet was able to trace the source of inoculation.

Mr. Pernet replied that so far he did not know the source of inoculation. He mentioned several cases of inoculation in adults, which he had seen, and where this point was definitely decided.

A Case of Multiple Lupus Vulgaris following an attack of Measles was shown by Mr. Pernet. It had previously been brought before the Society by Dr. Poynton for lichen scrofulosorum.

The Chairman (Mr. R. Clement Lucas) remarked that in many cases the disease was spread in the same person by scratching.

Mr. Pernet, in reply, said that a medical student, while working with a tubercle bacillus culture, scratched his head; this was followed by lupus vulgaris of the head.

A Case of Generalised Alopecia in a Mongolian Idiot was shown by Mr. Pernet. The case was brought forward to demonstrate the good growth of hair on the scalp, the result of persevering local treatment, and the exhibition of thyroid extract.

Dr. George Carpenter asked whether Mr. Pernet had tried carbolic acid to restore hair. He remembered that when the carbolic spray was used in the treatment of wounds he often noticed a considerable growth of hair in the sprayed region.

The Chairman (Mr. R. Clement Lucas) said he could bear out what Dr. Carpenter said; he supposed that any irritant would have the same tendency to promote the growth of hair.

Mr. Pernet said he had no experience of the carbolic spray in connection with alopecia.

An unusual Case of Infantile Paralysis was shown by Mr. Lockhart Mummery. The child, aged 18 months, lost the use of all its limbs during an illness twelve months ago, though the arms were only slightly affected. Since then the child has recovered the use of the arms, but the flexor action of the fingers of the right hand is not quite normal. There is very slight extensor power in the right thigh, but none in the left limb. The adductors on both sides are completely paralysed.

A Case of Genu Recurvatum was also shown by Mr. Mummery. The child, now 3 months old, was born with the legs bending the wrong way. Both legs are hyperextended to an angle of thirty degrees, and cannot be flexed beyond a straight line.

A Case of Synostosis of the Upper Ends of the Radius and Ulna, in a girl, aged 7 years, was shown by Mr. HUGH LETT. None of her relatives, nor any of her nine brothers and sisters were similarly affected. Both arms were involved, and skiagrams showed that the radius and ulna were united by bone for about an inch at their upper ends. The right radius was much curved. The right arm was in a position of nearly complete pronation, the left arm midway between pronation and supination. Flexion and extension of the elbow-joints were perfect.

The CHAIRMAN (Mr. R. CLEMENT LUCAS) said that congenital ankylosis was very rare. Some explanation such as intra-uterine fracture seemed necessary to account for the condition.

Mr. LETT said he regarded the condition as congenital.

A Case of Osteogenesis Imperfecta was shown by Dr. F. LANGMEAD. The child was born after an easy labour, seven weeks ago; it was brought to hospital on account of the deformities four days later. The legs and thighs were sharply bent; the arms and forearms were also bent, though not so much. Amniotic dimples were seen, two in front of the bend in the left leg, one on the outer aspect of the bend in the right leg, and one on the back of the upper part of the thigh. The post-anal dimple was well defined, Skiagrams showed fractures of the right humerus, radius and ulna, of both tibiæ and fibulæ, and of each femur in two places, making eleven in all. There was marked callus formation about some of the fractures, especially those of the leg and thigh-bones. The shadow given by the bones was no less dense than normal. The fractures were undoubtedly intra-uterine. There were nine other children in the family, all well, and there was no evidence or history of syphilis in the parents.

Mr. HUGH LETT alluded to a similar case he had brought before the Society last session, and asked whether there was any hydrocephalus or suggestion of heredity in Dr. Langmead's case.

Dr. LANGMEAD replied that there was no evidence of heredity nor hydrocephalus.

A Case of Congenital Heart Disease in a boy, aged 5 years, was shown by Dr. C. W. CHAPMAN. The only symptom he had had was some shortness of breath on exertion. He had had no illness beyond an occasional bronchial attack, one being so severe as to require confinement to the room for six months. Two years ago he nearly died when under gas for the removal of tonsils and adenoids. He was exceptionally well developed, and his mental condition beyond the average. The cardiac dulness was not increased. In the pulmonic area a harsh systolic murmur was heard conducted upwards and outwards. Over the mid-sternum was a loud blowing systolic murmur which could be traced in all directions, and was faintly audible in the interscapular region. The aortic sounds were normal. The liver could be felt just below the costal margin. Lungs normal. There was no cyanosis, and the finger-tips were not clubbed but tapering. Dr. Chapman considered the interventricular septum was patent, with stenosis of the pulmonary artery, both congenital. The points of interest were the absence of usual symptoms (with the exception of shortness of breath on exertion) and the boy's excellent development.

Dr. GEORGE CARPENTER agreed with the diagnosis of congenital malformation of the heart and stenosis of the pulmonary artery. The child had a systolic murmur best heard over the third left interspace close to the sternum, which was associated with a systolic thrill. The murmur, which was audible all over the front of the chest, was better heard on the left side than on the right, and it was also to be heard in the great vessels of the neck. When the murmur was so conducted, he looked upon it as a sign that the septum ventriculorum was perforate, but, unfortunately, it was not an infallible sign. A murmur, such as the one under discussion, indicated either stenosis of the pulmonary artery, or a perforate septum, possibly both together, perhaps atresia of the conus arteriosus or of the pulmonary artery, with a patent septum ventriculorum. He did not agree that there was no right-sided hypertrophy, but thought there was some hypertrophy of the right ventricle, and pointed out than an X-ray examination would settle the point. It was not uncommon for cases of congenital heart malformation to give no physical indications of their infirmity until an initial attack of bronchitis or broncho-pneumonia, from the onset of which, cyanosis and other signs often dated. Mild varieties of narrowing of the pulmonary artery such as this appeared to be were not incompatible with long life. Dr. Chapman's patient appeared to be singularly robust. The dangers lay in the balance of the circulation being upset by lung troubles, and by the onset of endocarditis further complicating matters.

Dr. Edmund Cautley remarked that the patient was a good illustration of the fact that the prognosis in these cases depended on the general health of the child and the circulatory effects, rather than on the loudness and distribution of the murmur.

Editorial.

PNEUMOCOCCAL INFECTIONS FROM A SURGICAL ASPECT.

The pneumococcus is now well known to produce infections apart from those of thoracic viscera only. It is fully recognised as a not uncommon cause of conjunctivitis. The mouth, pharynx, and tonsils seem to harbour this organism. It is also a frequent cause of acute otitis media. There are two diseases produced by this organism which are becoming of increasing interest to the surgeon on account of the greater number of cases which are recorded year by year, and which show that a peritonitis and arthritis of pneumococcal origin are not so rare as was formerly supposed.

Pneumococcal peritonitis is at times *generalised*, and it may then be *acute* or more *subacute*. If acute it runs the course of a severe septic peritonitis. If subacute the peritoneal symptoms are less manifest, and it may be said are rather indefinite, until a peritoneal exudate occurs in sufficient quantity to be detected clinically. The onset in such cases is abrupt with abdominal pain, vomiting, diarrhœa and fever. In a few days these symptoms abate somewhat and then more definite signs of peritonitis develop, viz. a distended, painful, and tender abdomen. The distension of the abdomen is such as to suggest fluid, but the "fluid thrill" may not be easy to obtain on account of the very viscid nature of the exudate. Such cases, if untreated, usually succumb on the tenth or twelfth day of the illness. A few successful cases after operation are recorded. An earlier diagnosis would probably save more.

Pneumococcal peritonitis is at times *encysted*. Here, again, the onset of the illness is abrupt; the symptoms are the same as in the generalised form, but are less urgent. A local abscess forms and this is far more frequently situated in the lower abdomen than elsewhere. Such cases had a much more favourable prognosis than in the generalised form of peritonitis.

Of great interest is the method of access of the pneumococcus to the peritoneum. Many different routes are given by various writers. It seems clear that peritoneal infection is comparatively infrequently consecutive to that of the lungs or pleuræ. Infection has been traced through the diaphragm from thorax to abdomen, but this method of travel seems one of great rarity. The symptoms of onset, and those of the first few days of the illness, suggest an infection of the gastro-intestinal tract. But this has been discovered only on a very few occasions. The greater frequency in the female child suggests an infection from the generative organs. Here, again, there is nothing like proof of this suggestion. In the present state of our knowledge it would seem as if the organism were conveyed from the blood to the peritoneum. The blood has been examined in some of these cases with negative results, although the pneumococcus has been found in the blood in persons suffering from pneumonia.

So long ago as 1888 the pneumococcus was identified as one of the causes of arthritis. Since that year many cases have been recorded. The infection is generally mon-articular, but may be polyarticular. It is the larger joints which are involved. The infection appears to be truly arthritic, although the pneumococcus may be a rare cause of acute infection of growing bone. The arthritis is often, and usually, not preceded or accompanied by pneumonia. An acute otitis media has apparently been the primary focus in many cases. The character of the pus varies. The prognosis of this form of arthritis is grave, yet many cases have recovered after thorough irrigation and drainage.

These two forms of pneumococcal infections are now fully recognised. The peritonitis is more frequent in the child than the adult, whereas the arthritis appears more frequent in the adult. The proof of their cause is naturally a bacteriological one.

Abstracts from Current Literature.

Medicine.

Status lymphaticus ('*Arch. of Pediat.*,' *August*, 1907).—**Howland** describes the symptoms of this condition and divides them into several classes: (1) Those characterised by sudden death, with or without some trifling shock, such as the beginning of anæsthesia or the injection of antitoxin. (2) The child suddenly becomes very ill with severe respiratory symptoms, dyspnœa, cyanosis, and cough; there are a few scattered râles in the chest; the temperature is often high, over 104° F.; the pulse becomes feeble and rapid and convulsions may occur, and the child dies. (3) A form occurs with purpuric symptoms, hæmorrhages into the skin and elsewhere; attacks of dyspnœa tend to come on and may cause death. (4) There are infrequent cases where the thymus obstructs respiration, causing constant dyspnœa from compression of the trachea. The author considers that direct pressure has little or nothing to do with the symptoms, as there is no stridor or venous enlargement.

('*Journ. de Méd. de Paris*,' *July*, 1907).—**Comte** discusses the treatment. As regards prophylaxis, it is known that the condition is often hereditary; it occurs in the families of syphilitics, tuberculous alcoholics, etc. Their offspring should have special attention during early life; they should have plenty of fresh air, hygienic clothing, and careful dieting; they should be habituated to sports and to cold baths, and should spend much of their life at the sea-side. The diet should consist of eggs, fish, brains, meat, fats, cereals rich in phosphorus, and green vegetables. Cod-liver oil is of great value. Bourbonne, Luchon, la Bourboule, Royat, Mont Dore, are the places of greatest repute for the treatment of this condition.

J. Porter Parkinson.

Afebrile pneumonia ('*Arch. of Pediat.*,' *August*, 1907).—**Goodman** describes a case of pneumonia in which there was no marked rise of temperature, and little or no increase in the number of respirations. The patient was a girl, aged 8 years, who while attending school began to suffer from a cough; the mother found the rectal temperature to be about 99·2° F.

to 99·6° F. each evening; the respirations were 22 and painless. There were the usual signs of pneumonia over the whole of the right lung. After the eighth day the rectal temperature registered 98·6° F. each evening, and on the twelfth day all signs of consolidation of the lung had disappeared. The writer quotes Fraenkel, who states that such cases occur occasionally.

J. PORTER PARKINSON.

Recurrent herpes of the face in infants (‘*Journ. de Méd. de Bordeaux*,’ *August*, 1907).—**Dubreuilh** records five examples, of which four were in children; they were mostly in females, and always began in infancy and recurred at intervals of from a month to a year. The seat was usually the centre of the cheek. It begins habitually at night and lasts four or five days, leaving a slight scar. The general health is usually good. Treatment has but little result. J. PORTER PARKINSON.

Pseudo-masturbation in infants (‘*Arch. of Pediat.*,’ *August*, 1907).—**Rachford** states that this neurosis may begin as early as the fourth month, and that it occurs chiefly in the female sex. The chief causes are nervous heredity, constipation, hyperacidity of the urine, and local irritation. The prognosis is good in the majority of the cases. The treatment is to remove the cause, to break the habit by watchfulness, or forcible restraint if necessary, as by fastening the pyjamas to the mattress so as to hold the thighs apart and prevent flexion of the thighs; the hyperacidity of the urine may be treated by benzoate of sodium and tincture of belladonna given over a considerable time. Besides this bromide of potassium may be given at bedtime. The general health must be carefully attended to. A daily bath followed by a cold douche should be given.

J. PORTER PARKINSON.

The harmfulness of milk from tuberculous cows (‘*L'Echo Méd. du Nord.*,’ *September*, 1907).—**Guerin** says that contradictory results have been obtained by inoculation into guinea-pigs, owing no doubt to the mechanical difficulties of the experiment. The general opinion amongst veterinary surgeons is that the milk only becomes dangerous when the udder begins to be attacked by the disease. This is undoubtedly an error. Milk from tuberculous animals should not be used as such; but is it equally harmful when made into butter? One can well believe that the manipulations necessary may remove some of the impurities, and with them the bacilli, but examination shows that gravity cream draws with it most of the pathogenic microbes present in the milk, and these are, of course, present in the butter prepared from this source. True tubercle bacilli were not demonstrated in many of the samples of butter examined, but, of course, as these samples were supposed to come from healthy animals, this was not surprising, and Guerin considers as the result of his observations that no use whatsoever should be made of the milk from tubercular cows, whether the udder be attacked or not. J. PORTER PARKINSON.

A case of primary chronic pyelitis (‘*Medicinisches Correspondenz-Blatt des Württembergishen ärtzlichen Landesvereins*,’ *August* 17, 1907).—**Kramer** reports the case of a girl, aged 10 years, who, two years previously, was taken with high fever, lassitude, headaches and constipation. Ever since there had been repeated relapses, more especially after errors in diet or much exertion. The urine was cloudy and contained a small quantity of pus and albumin.

The child was quite well between the attacks, except for the urine, which was never clear. There was no evidence of tuberculosis either in the history or in the lungs; repeated examinations of the urine failed to reveal tubercle bacilli. Treatment consisted in baths, urotropine, etc. In a discussion on this case Hofmeister mentioned having seen seven cases of primary pyelitis that winter among women; there was frequently evidence of influenzal origin. Other speakers agreed with the reporter that in women constipation played a causal *rôle.* M. D. EDER.

Diagnostic vaccination with tuberculin ('*Wien. klin. Rundschau,*' *August* 4, 1907).—**Pirquet** said that his method was deduced from that of cowpox vaccination, but unlike this there were no constitutional symptoms in tuberculin vaccination. He had made 360 vaccinations and had been able to prove convincingly the connection between clinical tuberculosis and tuberculin vaccination. In 85 per cent. of clinically ascertained tuberculosis there was a positive reaction; in 12 per cent. it was negative. In these latter cases the children were cachectic or were suffering from miliary tuberculosis. In adults the reaction is less marked and therefore of less value. Thirty-three per cent. of children with equivocal signs of tuberculosis reacted positively. The procedure he adopted was the following: the external surface of the forearm was cleaned with ether; two drops of tuberculin were set on the place and rubbed in with a lancet previously sterilised in the flame. As a control a small scratch was first made between the two drops. He employed Koch's Alt-tuberculin with one part of a 5 per cent. carbol-glycerine and two parts of normal salt solution. The marks were inspected on three successive days. In a discussion that ensued Moser reported 120 cases that had been vaccinated by this method. Twenty-eight had died whilst in hospital. Fourteen of these twenty-eight had not reacted and no signs of tuberculosis were found on section; in eleven cases with a previous positive reaction tuberculosis was noted at the autopsy. He considered these results showed the great importance of the method. **Freidjung** regarded the reaction as valueless. **Jehle** had had a positive reaction after vaccinating with meningococci. **Escherich** believed the test was a useful one for the diagnosis of tuberculosis in children.

M. D. EDER.

A case of rachitic hydrocephalus with serous leptomeningitis ('*Deutsche Aerzte-Zeitung,*' *September* 1 *and* 15, 1907).—**Edlefsen** saw, in consultation, a child, aged $1\frac{3}{4}$ years, who was said to be suffering from cerebral meningitis. At eighteen months the child had whooping-cough. Convulsions set in ten days later, followed, some days afterwards, by paralysis of the left limbs, incessant grinding of the teeth, and movements of the right limbs accompanied by some fever. When seen, some twelve weeks after the onset of these symptoms, the condition seemed hopeless. There were choreiform movements of the limbs, slight strabismus, pupils dilated, but reaction, although sluggish, was well marked. The skull did not appear to be enlarged; the fontanelles were closed. There was a well-marked rickety rosary. The temperature normal. The reasons for dismissing the diagnosis of meningitis are given in full as well as those which led the writer to conclude that rickets was the main factor. The child was ordered phosphorus—cod-liver oil ($\frac{1}{10000}$), a teaspoonful three times daily. A few days later there was an improvement; this was maintained and some ten weeks after the visit the patient was running about. When seen twelve months later there was not the slightest sign of any mental disorder. The physician in attendance and the mother were agreed that the administration of phosphorus was causally linked with the child's recovery. The writer strongly recommends the drug in all severe cases of rickets. M. D. Eder.

The highly arched palate ('*Thèse de Paris,*' 1907).—**Lemaire** examined forty-seven children possessing this deformity. It is not, as has been supposed, the normal palate of the dolichocephalic, since forty of the children were brachycephalic. Hereditary syphilis was found in only seven, and tuberculosis in eight. Adenoids alone, though present in 73·32 per cent. of the cases, do not account for the condition, which Lemaire attributes to rickets. Of the forty-seven children thirty-eight were obviously rickety, and the remaining nine presented deformities or antecedents which made rickets very probable, if not actually certain. The influence of rickets on the palate is twofold, first by its action on the osseous system, which explains the softening of the bony palate, secondly by its action on the lymphoid system, of which it provokes an hypertrophy. The retro-nasal stenosis engendered by the vegetations, and the respiratory obstruction resulting, favour the production of the deformity. J. D. Rolleston.

Sudden death in the new-born ('*Thèse de Paris,*' 1907).—**Provansal.**—Several children in the same family are liable to be affected (*cf.* British Journal of Children's Diseases, July, 1907, p. 312). Infantile sudden death of the familial character is of medico-legal importance, since in most cases there is nothing to distinguish it from sudden death due to criminal causes. The male sex is most frequently affected. Hereditary infections and intoxications are of considerable importance in the ætiology. In a family tainted with alcoholism, syphilis, tuberculosis, lead, or mercury poisoning, sudden or rapid death of the children may occur without any prodromal morbid state. J. D. Rolleston.

Dentition in hereditary syphilis ('*Thèse de Paris,*' 1907).—**Tronchon.**—Delayed evolution, premature caries, peculiar vulnerability, vicious implantation, erosions, microdontism, and amorphism may be found in both dentitions in hereditary syphilis. Hutchinson's teeth, which alone can be regarded as pathognomonic, though more common in the second dentition, may also be found in the first. Thus out of seventeen cases presenting undoubted evidence of hereditary syphilis, Tronchon found Hutchinson's teeth present in the milk dentition of eleven.

J. D. Rolleston.

Rickets and syphilis ('*Semaine Méd.,*' October 2, 1907, p. 469).—**Marfan** criticises the doctrine of Parrot, who held that rickets is always determined by hereditary syphilis. So absolute a position is untenable, but it would be a mistake to deny syphilis any share in the ætiology of rickets. Though admitting other causes of rickets, Marfan holds that syphilis is by itself sufficient to produce rickets, and is not merely a predisposing cause, as Fournier thinks. The peculiar characters of syphilitic rickets are: (1) Its early appearance; it is either congenital or starts in the first three or four months of life; (2) it is remarkable for its cranial lesions, especially craniotabes and the natiform skull, which are both much commoner in syphilitic rickets than in rickets due to other causes; (3) marked anæmia; (4) chronic hypertrophy of the spleen, which in two thirds of the cases is due to hereditary syphilis. Rickets due to alimentary disturbance hardly ever shows itself before the sixth month, is not well marked before the second year, affects the limbs more than the skull, and is often associated with digestive troubles and a big belly. Anæmia is less marked, and hypertrophy of the spleen is infinitely less frequent than in syphilitic rickets.

J. D. Rolleston.

The effects of borax on infants ('*Lancet*,' *August* 10, 1907).—**McWalter** reports the case of an infant of two months suffering from poisoning by borax. A fortnight after birth it developed thrush, for which "borax and honey were applied." The child seemed to develop a liking for it, and so it was applied very liberally—from two to three four-drachm boxes having been used every week from the second to the eighth week. During this time a progressive wasting had set in, and when the author saw the infant there was a marked erythematous eruption on the hands and on the plantar aspect of the feet, with distinct desquamation between the toes and the fingers; well-marked urticarial eruption was present on the arms and forearms, but the region between the legs was notably free from eruption. There was tumefaction and tenderness of the abdomen, and a raw, pinky redness of the lips, tongue, palate and throat, with vomiting and looseness of the bowels. The face had a wizened look, the skin was soft and brownish, the eyes were bright, and the joints, especially the knees, were tender, swollen, and somewhat stiff. There was no evidence of syphilis or other cause for the wasting and rash except the borax, of which the child had had about ten grains every day for six weeks. On stopping the borax and confining the infant to the breast-milk, together with a little raw beef-juice, it appears to be recovering rapidly.

James Burnet (Edinburgh).

A case of belladonna poisoning ('*Lancet*,' *August* 10, 1907).—**Brewer** prescribed for a boy, aged 4 years and 3 months, suffering from whooping-cough, two minims of tincture of belladonna and two grains of potassium bromide, to be taken every four hours. Within half an hour of the administration of the first dose a red flush came out around the child's neck and on his chest. The mouth seemed dried up, and the child was slightly delirious, but in about half an hour he got much better. A second dose of the mixture was given four hours after the first, and again in half an hour the child suffered in the same way, and was violently sick. The child was covered with a scarlatiniform rash, chiefly on the neck and chest; the pulse was rapid (120) and very feeble; the mouth was dry; the pupils were fully dilated; and the temperature was slightly raised. The child was only semi-conscious, and was with difficulty roused, and could not speak. On administering brandy consciousness and speech returned, the pulse slowed, and the pupils began to contract. Next morning the child had quite recovered, except for a very faint rash, which entirely disappeared within twenty-four hours. Considering the very small dose of belladonna administered this case of idiosyncrasy is extremely interesting.

James Burnet (Edinburgh).

A case of tuberculous cerebro-spinal meningitis ('*Lancet*,' *August* 3, 1907).—**Stanley Hodgson** reports a case of considerable interest. The patient was a girl, aged 3 years. The family history was good. She was first seen on July 4, and she had then been ill for about a fortnight. There was a slight rise of temperature and some constipation. During the night the child screamed with abdominal pain. Next day her condition was the same. She became somewhat irritable, and cried out when touched. A day or two later *tache cérébrale* was present, and the left knee-jerk was somewhat exaggerated. The left arm was frequently thrown above the head. The pulse was 90 and the temperature 100° F. On the 7th the child was drowsy, but free from all pain. There was now, however, definite resistance on testing for Kernig's sign. Next day the child could not swallow. About noon she had a fit in which there was marked opisthotonos and movements of the arms and legs simulating tetany. The convulsive movements continued until the 10th. There was no rigidity of the neck muscles. On the 10th the knee-jerk was found to be absent on the left side and very faint on the right. The pupils did not react to light. The temperature varied between 104° and 105° F. Retraction of the head now became marked, and coma was complete. On the 11th, with the assistance of Dr. Butterworth, lumbar puncture was performed, and a non-purulent blood-stained fluid was drawn off. On the same evening the temperature rose to 107° F., the pulse was 170, and at 2.30 a.m. on the 12th death supervened. The bacteriological report was as follows: "A portion of the fluid was centrifugalised and search was made for the *Diplococcus intracellularis*, but none was found. Films stained with Ziehl Nielsen showed the presence of tubercle bacilli in extremely small numbers."

JAMES BURNET (Edinburgh).

Cases of tetany treated by lumbar puncture ('*Lancet*,' *July* 27, 1907).—**F. C. Eve** reports the case of a boy, aged 4 years, of neurotic constitution. Mechanical stimulation of the seventh nerve caused contraction of the circum-oral muscles. The onset was acute and idiopathic a fortnight before admission into hospital, the mother noticing first a limp and then painful contractures of the hands and feet. On admission, walking was impossible owing to contraction of the calf muscles. The flexors of the forearms were also firmly contracted. In other respects the child was healthy. Treatment for twelve days consisted of tonics with open air day and night, then five days of aperients and vermifuges; next eleven days of energetic sedative treatment. No improvement followed. All other treatment was then stopped and an ounce of cerebro-spinal fluid was withdrawn by lumbar puncture. The pressure was normal. Next day the child was more rigid, but from that time onwards improvement was rapid and complete. In three days the fingers could be voluntarily extended, and in twelve days he could walk, but even after three weeks one heel would not quite touch the ground. Seven weeks after the puncture there was nothing to be made out except a scarcely noticeable tendency to adduction of the thumbs. The case convinces the author that the withdrawal of an ounce of cerebro-spinal fluid was responsible for the cure. Since the pressure was normal it seems legitimate to conclude that it was the hyperæmia which had favourably affected the nutrition of the disordered nervous tissues. In view of the almost harmless nature of lumbar puncture under suitable conditions, it seems justifiable to try it in a variety of acute or subacute cerebral affections which have resisted other treatment or are tending to become chronic; but until its indications are better understood it could scarcely be advocated until other remedies had failed. In the case referred to the operation was performed under chloroform anæsthesia. JAMES BURNET (Edinburgh).

The physical examination of boys at their entrance on public school life ('*Lancet,' August* 24, 1907).—**Clement Dukes** publishes the results of his examination of 1000 boys on admission into a public school, between the ages of thirteen and fifteen years. Several interesting points are raised in this report. Thus there are a great many cases of acquired deformities. He mentions 445 cases of lateral curvature of the spine, 526 knock knees, 329 flat feet, 126 pigeon breasts, and 64 bow legs. Many, if not all, of these deformities arise from faulty nutrition during infancy and the use of boiled milk and artificial foods instead of the breast milk in infant feeding. There are 70 cases of stammering and nearly 200 cases of defective sight, most of these being examples of myopia. The teeth were well cared for in 943 cases; in the other 57 they had been neglected. Oral breathing was present in 112 cases. Heart disease existed in 10 of the boys examined. An interesting note is that on the number of cases of varicocele observed, of which 92 were left-sided and only 4 right-sided. Strange to say, albuminuria was noted in 157 cases, and a trace of sugar in 3. Dukes mentions that albuminuria at this age is not necessarily of serious import. It is a functional disturbance, and he has never known this form of albuminuria to continue into mature life. He insists on the disadvantage of placing such children on restricted diet or of prohibiting games in moderation. JAMES BURNET (Edinburgh).

On the tendon and cutaneous reflexes in early infancy ('*La Pediatria,' May*, 1907, *p.* 321).—**Reano** gives a table of twenty cases of various diseases in infants at the Foundling Institute at Turin, in which the reflexes were carefully observed. He found that the patellar reflex is brisk in children at the breast and especially in the new-born, and is almost always associated with the centro-lateral reflex of P. Marie. The plantar reflex is also brisk and constant and is associated with either extension or flexion of the big toe or with mixed movements, and is accompanied almost always with contraction of the fascia lata and of the flexors of the leg. The cremasteric reflex, rare in the new-born, often makes its appearance between the eighth and ninth month, and is only present when the descent of the testicle into the scrotum is complete. The abdominal reflex is first met with, as a rule, only between the fifth and sixth months. Babinski's sign has no diagnostic importance in nurslings below the age of six months.

VINCENT DICKINSON.

The ætiology and treatment of some cases of convulsions and infantile epilepsy ('*La Pediatria,' July*, 1907, *p.* 492).—**P. Sargente** publishes the details of 21 cases—9 of convulsions and 12 of epilepsy. He found that in 9 cases of convulsions and 10 of epilepsy, bacteria could be cultivated from the cerebro-spinal fluid which was drawn off and was in considerable quantity. In the cases of convulsions a diplococcus, having the characteristics of the Jäger-Heubner meningococcus, could always be isolated. In the cases of epilepsy the bacteria isolated were, on six occasions, a diplococcus having the characters of the meningococcus, twice the *Staphylococcus aureus* and twice the *Staphylococcus albus.* In two instances the cerebro-spinal fluid was sterile. In all cases lumbar puncture as a therapeutic means gave excellent results. In the cases of epilepsy, lumbar puncture practised opportunely and systematically proved itself of much greater curative efficacy than bromides, and either used alone or in association with bromides and phosphorus was of special value in infantile epilepsy.

VINCENT DICKINSON.

Epileptic dementia in children (*'Rev. Mens. des Mal. de l'Enf.,' July and August*, 1907, *pp.* 289 and 358).—**R. Voisin** contributes an extensive and interesting paper on this subject and arrives at the following conclusions: Dementia, which is the usual termination of repeated attacks of convulsive and vertiginous epilepsy, is met with in children and adolescents. In early infancy it accompanies and retards the complete development of the intellect and constitutes acquired epileptic idiocy. In later infancy and childhood epileptic dementia presents different aspects and course; for instance, it may or may not be accompanied by spastic phenomena. In the first case it constitutes the paralytic and spasmodic dementia of Jules Voisin; in the second it presents four varieties, simple, hebephrenic, paranoid, and catatonic, but often with mixed symptoms of these varieties. Its course may be rapid or evolved slowly. In exceptional cases general paralysis may cause dementia in a young epileptic. If spasmodic dementia appears to result from and have the same origin as epilepsy, epileptic dementia præcox, on the contrary, seems to be of the nature of a degeneration, and epilepsy only plays an occasional *rôle* in its appearance.

VINCENT DICKINSON.

Infantile chlorosis (*'La Pediatria,' August*, 1907, *p.* 597).—**G. Giarratana** reports a case in a girl, aged 4 years and 9 months. The clinical symptoms were those of a chronic anæmia. Anæmia with splenomegaly was excluded since the spleen, liver, and lymphatic glands were quite normal. Progressive pernicious anæmia was excluded for several reasons: in this disease the hæmoglobin value is above normal, whereas, in the case reported, in spite of a considerable diminution of red corpuscles, the lowering of the hæmoglobin value was relatively still more marked. Besides, the absence of myelocytes, megaloblasts, nucleated red cells, the presence of a slight degree of leucocytosis, the absence of cutaneous or mucous hæmorrhages, and the clinical course of the disease took away all probability of such a diagnostic hypothesis. Repeated microscopic examination of the fæces excluded anæmia secondary to intestinal helminthiasis. The most striking clinical fact was the extreme pallor of the skin and mucous membranes in contrast with the state of general nutrition and abundance of fat. The author considers that, for the diagnosis of a chlorotic type of anæmia in infancy, it is not necessary to have a marked diminution in the hæmoglobin value while the number of red cells remain normal, since this form, which is generally considered to be characteristic of chlorosis, has really nothing specific about it. Of much greater importance is the symptomatology and especially the contrast between the pallor of the skin and mucous membranes and the well-preserved state of nutrition. It is useless to admit two forms of chlorotic anæmia as Lenhardt does, one pure and the other mixed, the latter being merely the ordinary anæmia of infancy. For the pathology of this disease it is sufficient, in some cases, to invoke the congenital or acquired deficiency of the reserve of iron which each child has in its liver when born; in other cases, as that described, it is necessary to invoke also a congenital or acquired functional debility of the hæmato-poietic organs. The case described serves to identify, as regards their pathology, the chlorosis of puberty with the chlorotic anæmia of infancy. In infantile chlorosis the slight febrile condition is not always constant and persistent, as Marfan affirms, but is often interrupted by periods of complete apyrexia.

VINCENT DICKINSON.

Congenital muscular atony (*'La Presse Médicale,' September* 14, 1907, *No.* 74, *p.* 589).—**L. Tobler** gives a complete description of this condition first described by Oppenheim and Berti, based on seventeen cases. Neither heredity, obstetric traumatism, nor premature birth seem to play any part in its ætiology. It probably commences during intra-uterine life, as in several cases the fœtal movements have been noticed by the mothers as having been extremely feeble. The parents notice the immobility of the infant either shortly after birth or when it should begin to walk. Generally the muscular inactivity is limited to the lower extremities, but in severe cases it is noticed also in the upper limbs, thorax and neck. The infant then seems paralysed and remains almost completely motionless. No true paralysis, however, exists, for in cases where the lower limbs alone are attacked the child can perform spontaneous movements with the hands, and on pinching the legs slight defensive movements are noticed. On making the patient sit the vertebral column becomes kyphotic; the limbs bend on putting him upright. The muscles are soft and pasty, but not atrophied. On giving passive movements no resistance is met with and the laxity of the articulations is so great that the elbows can be bent backward and the shoulders made to touch the ears. Tendon reflexes are abolished, but the superficial are retained. The muscles do not respond to mechanical stimulus; electrical excitability is sometimes abolished, but most often diminished only. The muscles supplied by the cranial nerves do not seem to be attacked; the anal and vesical sphincters are intact, the general sensation, organs of sense, and intelligence remain. There are no subjective symptoms, the general health is good and the body well nourished. Some cases are not progressive, but at the end of months or years the muscular enfeeblement tends to disappear, but its disappearance is often incomplete. Stiller, in an autopsy, found the muscles of the sole of the feet thin, atrophied, with a "hyaline appearance" and proliferation of connective-tissue nuclei; the brain, medulla, and peripheral nerves were intact. Bing, on the other hand, in a case examined during life, found the muscle tissue normal excepting a slight increase in the number of nuclei. These facts are not sufficient to decide the origin of the affection, and there remains only Oppenheim's theory that it is due to an arrest or retardation of development in the muscles affected. See also 'Jahrb. f. Kinderheilk.,' 1907, vol. xvi, fasc. 1, p. 33.

VINCENT DICKINSON.

The temperature of nurslings (*'Rev. Mens. des Mal. de l'Enf.,' August*, 1907).—**Nobecourt** and **Merklen** have observed a series of cases to determine the normal temperature curve in nurslings. They find that an infant does not present the line of variation usually seen in an adult, even in health. Infants have monothermal temperatures with little variation between the morning and the evening. This monothermal temperature is constantly found in infants up to the fifth month. Interference with the regular line always indicates a pathological condition.

T. R. WHIPHAM.

Enlargement of the epitrochlear glands in infants (*'Arch. of Pediat.,' August*, 1907).—**Hess** has examined 300 cases of infants with reference to the enlargement of the epitrochlear glands. Minute bilaterally enlarged glands were found to be very common. Small bilaterally large glands were found in twenty-six cases, which included a great variety of diseases, but only three cases of syphilis. Large bilaterally enlarged glands occurred in fifteen cases, of whom six were syphilitic, and three others possibly so. The writer is of opinion that considering the rarity of marked bilateral enlargement of these glands in children and the large proportion of syphilitics among those so affected, their occurrence may be an important diagnostic point. It is to be noted that in older children enlargement of the epitrochlear glands is not necessarily a sign of syphilis. Although the absence of such enlargement in infancy does not negative the diagnosis of syphilis, its existence may be valuable diagnostic evidence.

T. R. Whipham.

Pseudo-masturbation in infants (*'Arch. of Pediat.,' August*, 1907).—**Rachford** publishes a series of fresh cases and adds some interesting remarks on this subject. Pseudo-masturbation is a syndrome which occurs in early life. The child, while lying on its back, rubs the external genitals with its flexed and crossed thighs, assisted by a wriggling or up and down body movement: in other instances the genitalia are rubbed against some object. This is apparently attended by a pleasurable sense of excitement, a flushing of the face, and increased nervous tension. A general relaxation follows accompanied by a mild perspiration, and finally a sense of contentment and sometimes sleep. The average age for the onset of this neurosis the author found to be sixteen months, the earliest noted being at the fourth month. The great majority of cases occur in females, out of fifty-two cases forty-eight being of this sex. In explanation of this fact the author suggests that irritations of the genitalia are much more liable to be overlooked in the female than in the male infant. It must also be remembered that the clitoris is more exposed to external irritation in infancy than in childhood owing to the small development of the labia, which later enfold it. Heredity is an important factor, as in three fourths of the cases there is a distinct history of a neurotic tendency. A gouty inheritance may also predispose to this condition by producing a liability to periodic attacks of acid urine. Illness, and especially malnutrition, by increasing the irritability of the nervous system, may further aid in starting or prolonging the habit. The direct causes are those which produce irritation about the genitals; thus, highly acid urine was found in more than a third of the cases. Constipation, colitis, disease of the rectum, thread-worms, tight and irritating clothing, and uncleanliness are also cited as factors. The prognosis is very good, though it is a long time before the habit ceases, nineteen months being the average. Treatment consists in checking the habit and immediate removal of any source of irritation. The child should be kept in a sitting posture as much as possible, and, in some cases, forcible restraint may be necessary. For the relief of very acid conditions of the urine, upon which stress is laid, benzoate of sodium and tincture of belladonna should be administered. In the case of older children, in which the practice is apt to occur at night, bromide of potassium and belladonna may be given at bed-time. Careful watching for some years is necessary, as the habit is liable to recur. The author considers that there is practically no connection between the pseudo-masturbation of infancy and the true masturbation of later life. T. R. Whipham.

Congenital goitre as the result of potassium iodide taken by the mother (*'Scot. Med. and Surg. Journ.,' September*, 1907, *p.* 219).—**B. P. Watson** relates the following case: A syphilitic woman took 30 gr. of iodide of potassium daily from the second month of pregnancy until the birth of her child at full term. The infant at birth had a large swelling in the neck, composed of the enlarged thyroid, which from pressure caused considerable respiratory embarrassment. Signs of congenital syphilis appeared later, and the infant died at the age of four months from epidemic cerebro-spinal meningitis. The association of enlarged thyroid at birth with the administration of potassium salts to the mother during pregnancy has been recorded in several cases. Potassium chlorate has been the salt most frequently followed by this result; in some cases both the iodide and chlorate of potassium have been given, and in this case potassium iodide alone. The author is not inclined to lay too much stress on the potassium salts as being the chief factor in the production of goitre in these cases. He thinks that the hypertrophy is just as likely to be due to the condition of the mother's blood as to the action of the drug given. G. A. SUTHERLAND.

Contribution to the investigation of the Mongolian blue patches in European children (‘*Monatschr. f. Kinderheilk.*,’ *January*, 1907, Bd. v, S. 509).—**G. Menabuoni** describes a case of this nature in an Italian child. The patches corresponded to the well-known characteristics: dark blue in colour, not raised above the surface, not disappearing on pressure, with an indefinite margin, appearing by preference on the males. They occur in 90 per cent. of Japanese children, and only exceptionally in European children. Menabuoni considers their presence indicates a previous crossing with some Mongolian strain. ERNEST JONES.

Pathology.

The influence of typhoid fever upon growth (‘*Thèse de Paris*,’ 1907).—**Chanal.** Certain acute fevers occurring in childhood or adolescence favour the growth of the individual. This is especially true of typhoid, the bacillus of which has a predilection for the skeleton. The rapid growth which occurs in typhoid may continue during convalescence, and is sometimes associated with pain in the neighbourhood of the epiphyses which may pass along the whole limb, and with indelible striæ over the large joints. The increase in height, which is almost entirely produced by means of the long bones of the lower limbs, is the result of the irritation of the bone marrow caused by the typhoid bacillus or its toxines. The hyperæmia which occurs at the diaphyso-epiphysial junction may be regarded as the first stage of osseous lesions found in young persons after typhoid. If the irritation is of short duration and of slight degree, growth results, while a more violent irritation longer applied produces inflammation leading to osteitis and osteo-myelitis. J. D. ROLLESTON.

Polydactylism (‘*Lancet*,’ *August* 10, 1907).—**Wm. J. Morrish** adds one more to the list of recorded cases showing the hereditary nature of this variety of deformity. His patient had borne seven children, two boys and five girls. Both boys were normal, but the girls showed polydactylism of hands and feet. Each child had six digits on both hands; the eldest girl had six toes on the left, but only five on the right foot. The second had five toes, with slight webbing of the second and third on each foot. The third had six, with the second and third completely webbed on each foot. The fourth girl had an apparently spatulate condition of each great toe, which, on closer examination, gave the appearance of a fusion of two separate toes, while in addition to this on the right foot there were two little toes apparently in relation with the fifth metatarsal, the remaining digits of the left foot being normal. The fifth girl's feet showed only a very slight degree of webbing of the second and third toes of each side. The father of these children had six digits on each hand and foot, with bilateral webbing of the second and third toes. He was an only child, and his father and mother were quite normal as regards their hands and feet. He was not related to his wife prior to their marriage.

JAMES BURNET (Edinburgh.).

A new test for tuberculous pus (*'Centralbl. f. inn. Med.,' No.* 12, 1907).—**Müller** describes a new test. Hitherto the only means for distinguishing macroscopically between tuberculous and non-tuberculous pus has been by the Müller-Jochmann method, in which a minute drop of pus is placed on some sterile coagulated blood-serum and the whole is incubated. With tuberculous pus no change takes place, but if the pus is the result of ordinary pyogenic bacteria a small cup-shaped depression is formed in the culture medium. Müller's new test is simpler. A drop of pus is allowed to fall into a glass containing Millon's reagent (a solution of mercury and nitric acid). Non-tuberculous pus forms a small lump, which soon disintegrates and turns the liquid a bright red colour; tuberculous pus, on the other hand, forms a pellicle on the surface of the fluid, which, if submerged, becomes globular in shape, does not disintegrate and does not colour the liquid. The explanation of the two tests is the same. Ordinary pus contains a proteolytic ferment, while tuberculous pus does not. This ferment in the first test digests the blood-serum and so forms a depression; in the second it acts on the proteids contained in the pus with the formation of albumoses, which diffuse into the reagent and give rise to the characteristic red colour. Tuberculous pus contains chiefly albuminous bodies, which form a firm coagulum with Millon's reagent. T. R. WHIPHAM.

Therapeutics.

Werlhoff's disease and calomel (*'La Semana Med.,' August* 1, 1907). —**Amuchastegui** regards these cases of multiple hæmorrhages as due to toxins formed and re-absorbed in the gastro-intestinal apparatus. He cites the following case in support of his view. A male child, aged 2½ years, was in excellent health. On June 25, just after he had taken a hearty breakfast, the mother reprimanded the child by giving him two light smacks on the buttocks and sending him out of the room. He went out crying bitterly and returned five minutes later happy and laughing. His face and body were now covered with red marks. A doctor who saw him believed it to be a case of hæmophilia. He was given caster oil, which was followed by two large, fœtid, melænic stools. Three days later the temperature was 101° F. The face over the temporal and pre-auricular regions showed large ecchymoses. There were others in the neck, mastoid region, on both legs and on the right gluteal region. The conjunctivæ were both stained, as was the palate. There were epistaxis and buccal hæmorrhages. A milk diet was ordered and 30 cg. of calomel in five doses. This was followed by copious, fœtid, bloody stools. The ecchymoses became paler; there were no further hæmorrhages. The improvement continued and in nine days the child was well. M. D. EDER.

The treatment of some acute pulmonary affections of infancy (*'L'Echo Med. du Nord.,' September*, 1907).—**Delearde**, speaking of pneumonia, broncho-pneumonia and capillary bronchitis, recommends strongly revulsion in the form of sinapisms. Dry cupping is difficult to apply to children, especially if thin, and iodine, if repeated, causes painful excoriations of the skin. He also strongly recommends hydrotherapy in the form of hot, cold, or mustard baths to those cases of broncho-pneumonia where the extension of the lesion is the danger to be feared, but not in the adynamic forms which may follow diphtheria or scarlet fever, etc. In these cases cold packs stimulate the patient. raise the pulse pressure, and increase diuresis. The hot bath, instead of awaking the waning strength, often plunges the infant into a drowsy state, which is dangerous in cases of prostration, though it is an excellent derivative in congestion of the lungs. He also speaks highly of a mode of treatment which we do not hear of in this country. This consists of producing an abscess by subcutaneous injection of turpentine beneath the skin of the thigh; when the abscess forms the physical signs in the lungs are said to improve rapidly. It is used in rapidly extending cases of pneumonia, such as those complicating acute specifics, like influenza. The drugs he recommends are not different to those used in this country; as a stimulant, however, he uses 1 c.cm. of a 10 per cent. solution of camphor in oil by hypodermic injection, and sometimes a mixture of sparteine and strychnine. He keeps the child in the sitting position to avoid passive congestion, and to hinder infection of the bases. J. Porter Parkinson.

Treatment of coxalgia by injections (*'Journ. de Med.,' September,* 1907).—**Calot**, of Berck, practises these injections from the earliest commencement. In benign cases he uses a mixture of oil 50 grm., ether 25 grm., creasote 3 grm., iodoform 7 grm., of which 3 to 10 grm. are injected each time according to age. In severe forms he uses glycerine 20 grm., naphthol-camphor 3 grm. Ten injections are given at an interval of five or six days, extending over two months. During this time extension is put on the limb, which is immobolised in plaster; after this extension is kept up for five or six months longer. The advantage of this treatment is to lessen the course of the disease, and so to lessen the atrophy of muscles which ensues. J. Porter Parkinson.

The treatment of tubercular peritonitis by injections of iodised normal saline solution ('*La Pediatria,' May,* 1907, *p.* 336).—**C. M. Greco** publishes four cases in which he employed this method. He used a solution of physiological serum feebly iodised with the intention of stimulating the urinary activity by small but repeated doses and utilising its diuretic properties. The formula was: 7½ per cent. solution of salt 200 grm., iodine 2 grm., iodide of potassium 20 grm. Two cubic centimetres were injected into the gluteal region on alternate days. His results show that in the treatment of tubercular peritonitis this treatment is more beneficial than that by iodine alone; that the use of iodine hypodermically increases the activity of the lymphoid organs, the number of red globules, and the hæmoglobinuric value; if chloride of sodium is added, this increase is more marked and more rapid; the elimination of chloride of sodium increases under injections of iodised serum. From a repeated estimation of chloride of sodium in the urine of children affected with tubercular peritonitis, we can deduce the gravity or otherwise of this disease; a progressive rise in the amount of the salt indicates that the organism is advancing towards cure, but if it remain stationary it indicates persistence or aggravation of the disease.

Vincent Dickinson.

Otology, Laryngology and Rhinology.

Tumour of the naso-pharynx in a new-born child (*'Glasgow Med. Journal,' July*, 1907).—**A. J. Wilson** records a somewhat remarkable case. The child was a female, and, apart from the tumour, looked very healthy and strong. Its size was above the average. The face had a most unusual appearance. The nasal bones were bulging, and a small cystic portion of the tumour projected from the right nostril. The mouth was wide open, and a soft mass, covered with skin and almost as large as the infant's fist, filled the mouth and projected between the upper and lower lips. The tongue was pressed backwards and downwards out of sight; indeed, the woman in attendance expressed the opinion that the child had no tongue. On examination the tumour was found to be growing from the naso-pharynx and *apparently* attached to the base of the skull. It practically filled the naso-pharynx and passed through a large cleft in the palate by means of a pedicle, and then expanded in the mouth into a bilobed mass. Radical operation being out of the question, the pedicle was transfixed close to the palate, ligatured, and the mass removed from the mouth close to the ligature. Owing to difficulty in feeding the child died on the ninth day after the operation. On examination the tumour was found to be a dermoid. Skin, hair follicles, myxomatous tissue, and a small piece of tooth were all found present. A somewhat similar case is reported by Sutton. JAMES BURNET (Edinburgh).

Surgery.

The treatment of scoliosis by crawling (*'Zeitschr. f. Orth. Chir.,' Bd.* XVI).—**Klapp's** method of treating scoliosis is based on the gait of quadrupeds. These animals in walking at one time approximate the fore and hind limbs on one side and separate those on the other. With each successive step the process is alternated. The spine, instead of remaining immobile, curves away from the side on which the limbs are brought together, first to one side and then to the other. Such movements of the shoulder and pelvic girdles greatly assist in correcting the deformity of a scoliotic spine, and crawling exercises are readily carried out by young children. In older and more rigid cases this method does not suffice; for such the author employs either the rapid performance of movements, forced movements slowly carried out, or movements without progression, with the object of drawing in the projecting and throwing out the depressed ribs, so as to correct the curve in the spine. This can be done by forced rotation of the thorax or of the whole trunk, preferably in the horizontal position. Two hours a day is the shortest time which should be devoted to such exercises. T. R. WHIPHAM.

Purulent conjunctivitis in a baby born after Cæsarean section (*'Ann. d'Oculist.,' July*, 1907).—**Terson** reports that in a case of Cæsarean section, performed at term, as soon as the baby's head appeared in the uterine incision it was noticed that the eyes were red, swollen, and secreting pus. Examination of the infant after the completion of the operation revealed the fact that it was suffering from an intense purulent ophthalmia of both eyes. Treatment with nitrate of silver and permanganate of potassium brought about a cure without any involvement of the cornea in about ten days. Cultures showed the presence of staphylococci together with an organism resembling the *Micrococcus tetragenus*.

T. R. WHIPHAM.

Tumours of tendons in children (*'Centr. f. Kinderheilk.,' April* 1, 1907).—**Pels-Leusden** reports two cases of a swelling in the tendon of the flexor longus pollicis causing flexion of the thumb. The patients were a girl of four and a boy of two. In each the interpharyngeal joint of the right thumb was in a position of rectangular flexion. Neither passive nor active extension was possible, but some further flexion was allowed. A nodule, apparently in the long flexor tendon, could be felt opposite the metacarpo-phalangeal joint. At the operation it was found in each case that the cause of the deformity was a small tumour embedded in the substance of the tendon and large enough to become impacted in the fibrous tendon sheath when extension was attempted. The tumour was shelled out without interference with the continuity of the tendon. Microscopically it was found to consist largely of blood-vessels which were surrounded by a certain amount of loose connective tissue. The extensive development of blood-vessels was regarded as evidence that the tumours were not of tubercular or gummatous nature; the arterial structure of the vessels was considered to negative the view that the tumours were sarcomatous. The author regards the condition as being of embryonic origin—a localised persistence of the rich fœtal blood supply to the tendons. It might very well have passed altogether unnoticed had it not produced a swelling of the tendon in a situation where it led to mechanical interference with movement. Had the swelling been less marked it might have led to the development of the symptoms of trigger finger, but there was no history in either case that such a stage had been passed through. WILFRED TROTTER.

Strangulated inguinal hernia in infancy (*'Med. Chronicle,' February,* 1907).—**E. D. Telford**.—The author remarks upon the relative rarity of any but the slightest grades of strangulation in the herniæ of infants, and ascribes it in part to the slightness of the resistance to stretching offered by the structures round the sac, and in part to the rarity with which omentum is found in such herniæ. He has collected and analysed the records of 224 cases in which herniotomy had been done for strangulated inguinal hernia in children under four. *Age of patients.*—More than half the cases occurred in infants under six months old, and three quarters of these in infants under three months. *Sex.*—Of the cases in which sex was recorded (69), in only three were the patients females. *Side.*—Strangulation was more than three times as common on the right side as on the left. This is somewhat greater than the predominance of uncomplicated hernia on the right side. *Contents of the sac.*—A record of this was found in 104 cases. In 83 small intestine was found, in 21 cæcum and appendix. There was a definite difference in the progress of the symptoms according to the contents of the hernia. When small intestine was strangulated the symptoms developed rapidly and were severe; when the cæcum was strangulated the general and local symptoms were milder and more gradual in onset. *Effusion into sac.*—This seems to be especially rapid in appearance and large in amount in infants, and has led to a strangulated hernia being mistaken for a hydrocele. Amongst the symptoms the author mentions reduction in the amount or actual suppression of urine as being of some diagnostic value. In dealing with treatment he makes no suggestions beyond the routine methods of modern surgery. WILFRED TROTTER.

Intussusception in an infant aged 3 months (*'Lancet,' October* 19, 1907).—**F. W. Collinson** reports the case of a female infant who was suddenly seized with severe spasms of abdominal pain and vomiting of milk drawn from the mother's breast. On the following day the actual condition was diagnosed. She was passing blood *per rectum*, and a sausage-shaped tumour was palpable on abdominal examination. Seventeen hours after the first onset of symptoms the child was anæsthetised, wrapped in cotton-wool, and placed on an indiarubber hot-water bag. An enterectomy was performed. The tumour was found to be dusky in colour. The part excised consisted of two and a half inches of the ileum, cæcum, appendix, and a small part of the ascending colon, seven inches in all. The ends were brought together by a Mayo Robson bobbin. The operation was completed within an hour. Two and a half hours after the operation the mother suckled the child, and continued to do so every three hours. In three weeks' time the patient was perfectly well. This case is interesting on account of the extremely early age of the patient operated on, and the absence of shock after the operation. JAMES BURNET (Edinburgh).

Imperforate vagina and absence of anus ('*Amer. Journ. of Obstet.*,' *August*, 1907).—**Hargrave** reports the case of a new-born child with imperforate vagina and absence of anus which was successfully operated upon by the perinæococcygeal route for the intestinal defect. After operation recovery was uneventful and the infant's health good until, when fourteen months old, it developed an acute intussusception and died.

J. HOWELL EVANS.

Correspondence.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

DEAR SIR, With reference to page 277 of the June issue of your journal, I beg to ask the favour of your kindly informing me with the drug Paragangline vassale, that from where it can be had, and at what rate per oz. I could not get the drug anywhere in India. Please also let me know the ingredients of it, and whether it can be of any use in a man of long habituated prolapse. I shall thank you very much for the favour. Please read page 277 of THE BRITISH JOURNAL OF CHILDREN'S DISEASES for the month of June, 1906.

Yours faithfully,
LAKSHMANA SWARUPA,
Hospital Assistant.

Mankapur Dt. Gonda,
United Provinces, India,
March the 25th, 1907.

[Paragangline Vassale is an extract of the supra-renal gland, and is to be administered in 8 to 10 minim doses. It is similar to the preparation named "Epinephrine," the use of both being advocated for inducing local ischæmia, and in the treatment of hæmorrhoids and epistaxis. The drug can be obtained from E. Merck, of Darmstadt, and its price is about the same as that of the sulphates of physostigmine or atropine.

Vassale's articles on the use of paragangline are to be found in 'La Semaine Médicale,' 1903, No. 9, p. 76, and No. 10, p. 84.]

THE

BRITISH JOURNAL

OF

CHILDREN'S DISEASES.

Vol. IV. DECEMBER, 1907. No. 12.

Original Articles.

REPORT OF AN EPIDEMIC OF GLANDULAR FEVER.

By J. R. Clemens, M.D.,

Professor of Diseases of Children, St. Louis University, U.S.A.

The report herewith submitted has been made from a study of sixteen cases under the most advantageous circumstances. The outbreak occurred in a large, well-kept, male orphan asylum (284 boys) where all the cases were continually under observation. Blood studies (the opsonic index, blood charts, and blood cultures), the incubation period, and eye-ground findings were points to which especial attention was given, and the writer feels warranted in making some claim to new findings in this disease.

That the series of cases herein reported constituted a true epidemic is a statement deduced from the following considerations :

(1) The boys who were infected slept in the same dormitory and in beds close together.

(2) The boys in the other domitories escaped.

(3) A definite period of incubation was observed.

(4) The series of cases ended abruptly on fumigation by the city health authorities.

In the diagnosis, mumps, influenza, atypical scarlet fever, and throat, nose, ear, skin, and scalp foci of symptomatic adenitis were all excluded by a painstaking differential diagnosis.

Season.—The epidemic occurred during the first three months of the year.

Age.—Six to thirteen years.

Previous condition of health.—Prior to onset the boys appeared in their usual health.

Incubation.—Seven to ten days.

At intervals varying from seven to ten days the following groups developed acute symptoms : 3, 2, 3, 2, 2, 2, 2.

Ætiology.—Some days prior to the outbreak the boys of the asylum had spent a holiday in the dusty pastime of roller skating on the wood-floored basement of the asylum. An extensive outbreak of varicella had preceded the epidemic of glandular fever, but none of the boys with glandular fever had contracted previously the chicken-pox. Whether the dust-laden floors or the chill incidence to violent exercise played a *rôle* in the ætiology are matters for conjecture.

Blood findings.—(*a*) The opsonic index for the *Staphylococcus albus* was positive and high.

(*b*) The blood counts showed in most cases a slight leucocytosis.

(*c*) The blood cultures were negative.

(*d*) The pus from one case, in which a gland suppurated, proved on culture to be pure streptococcal, which on inoculation was non-pathogenic to the rabbit.

Eye-ground findings :

(1)	James H—	Hyperæmia of discs.	Veins in all cases full.
(2)	D. M—	Double optic neuritis.	
(3)	A. F—	Hyperæmia.	
(4)	B. L—	Hyperæmia.	
(5)	J. M—	Mild neuritis with œdema of retina; veins engorged; outlines of discs obliterated below and very faint to inner side.	
(6)	David K—	Mild neuritis; margins below obliterated; veins engorged; slight haze over surface of discs.	
(7)	J. M—	Hyperæmia.	
(8)	W. B—	Hyperæmia.	
(9)	Kenneth M—	Hyperæmia.	
(10)	James W—	Hyperæmia.	

Thus in more than half the cases the eye-grounds were pathognomonic.

The adenitis.—The following sets of glands were not affected in any of the series of cases : Sub-occipitals, mastoids, parotids, inguinals. There was no enlargement of the liver or spleen. There was no tenderness around the umbilicus, and consequently the mesenteric glands were not involved.

The axillary glands.—Attention is to be directed to the fact that mere enlargement of the axillary glands is not symptomatic of glandular fever. In children passive enlargement of the axillary glands is the rule without any departure from health. In glandular fever the glands are not only enlarged but also *tender*.

The mediastinal glands.—In two cases marked involvement of these glands were found.

The sub-maxillary glands.—In one case where glossitis developed during the attack, the sub-maxillary glands were involved.

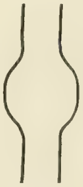
The superficial and deep cervical glands.—These are the glands whose enlargement are pathognomonic of glandular fever.

In half the cases the glands involved at onset were on the right side of the neck and posterior to the sterno-mastoid. In two cases simultaneous involvement of the glands on both sides of the neck posterior to the sterno-mastoid muscles were met with at the onset.

There was no sequential progressive involvement of the cervical glands, as described in text-books, which are said to begin at the posterior border of the left sterno-mastoid, then anterior to the same, and then commencing on the right side in the same order. The appearance of the neck in glandular fever is characteristic.

The apex of the tumefaction formed by the enlarged glands is at the level through which a line drawn parallel to the ground would bisect the neck.

Viewed from behind, the neck appears thus :



In two cases there was suppuration of the glands affected. Resolution of the glands in three cases was protracted.

Onset.—In the majority of cases the boys woke in the morning complaining of stiff neck, general myalgia and pain on deglutition. The following history is a typical case of mild onset :

Gustave S—, aged 12 years (tenth case of series). Woke up with painful and stiff neck ; stiff and sore all over, unable to kneel at morning prayers, pain on deglutition. Temperature 100° F. Throat negative. On both sides of neck chains of glands, posterior to sternomastoids, enlarged and tender; axillary glands enlarged and not tender (tenderness elicited twenty-four hours later).

In two cases the onset was stormy:

James H—, aged 7 years (twelfth case of series). Onset with rigors. Temperature 104° F. Throat clear. Both sides of neck swollen. The enlarged glands were the size of goose eggs, oblong in shape, extending from clavicles to level of lower borders of lobules of ears, the tumescence being especially marked in middle of the neck, giving the characteristic glandular fever neck contour. The tumour masses were made up of the swollen superficial and deep cervical glands. Both clavicles and the first intercostal spaces were dull on percussion, indicating an extension of the adenitis to the mediastinal glands. Axillary glands enlarged, but not tender (tenderness elicited later).

Urine.—Blood and albumin (acute nephritis).

Eye-grounds.—Hyperæmia of optic discs.

The child appeared desperately ill, hands and lips tremulous, face flushed, begging for water.

Dan M—, aged 9 years (ninth case of series). Onset: vomiting and grave prostration; fell to floor. Throat negative; herpes labialis. Temperature 103° F. Glands swollen on left side of the neck, neck painful and stiff; one very large and tender gland in posterior triangle of neck; one large gland dipping under the clavicle giving marked dulness on percussion to left clavicle; dulness of first left intercostal space, indicating extension to mediastinal glands.

Eye-grounds.—Double optic neuritis.

Urine.—Negative.

One gland in this case went on to suppuration.

Pathology.—The opsonic index determinations working with the *Staphylococcus albus* were made during the convalescent period of the disease, and the finding of a positive and high index points to an acquired increased resistance to the *Staphylococcus albus* which must have been developed during the glandular fever attack, and this fact points to *Staphylococcus albus* as the probable cause. The fact that the cervical glands of the neck were the first sets of glands involved suggests that infection entered through some portal in the area drained by these glands—the naso-pharynx is the most probable seat of this infection.

Diagnosis.—The diagnosis in epidemics is easy. In a sporadic case the points on which a diagnosis would be made would depend on the sudden appearance of an acute cervical adenitis, the peculiar contour of the neck, the exclusion of all other sources of which the enlarged glands would be symptomatic, the anatomical topography of the glands affected, and the early involvement of the axillary glands. The eye-ground findings if as above described would make the diagnosis certain; likewise the syndrome complex of an acute enlargement of the cervical glands with acute nephritis.

Prognosis.—The outlook for recovery is good. In only the two severest cases were the mediastinal glands involved (by direct continuity with the lymphatic chains of the deep cervical glands). It seems, therefore, that in cases of glandular fever where the mesenteric glands are found involved (through their communication with the thoracic duct), the gravity of the attack, arguing on *à priori* grounds, should be extreme, a fact which descriptions in text-books do not lead us to infer.

In conclusion, I wish to acknowledge my thanks to Drs. Wm. Engelbach, O. H. Brown, and John W. Marchildon for assistance in blood work, and to Dr. John Green, jun., for ophthalmological examinations.

RIGHT-ANGLED CONTRACTION OF THE TENDO ACHILLIS AS A CAUSE OF HALTING AND STUMBLING IN CHILDREN.*

By A. H. Tubby, M.S.Lond., F.R.C.S.,

Consulting Surgeon to the Evelina Hospital for Sick Children; Surgeon to the Westminster Hospital.

The condition which I am about to describe comes before us in different clinical guises, the apparent discrepancy being due to the degree of departure from the normal. I will briefly indicate to you some of the phases which are met with.

A child is brought for advice by his parents with a statement that he very soon becomes tired in walking, has pains in his calves and around the knees. He is not able to run well nor swiftly, and shortly after starting he stumbles and falls; and the scars about the upper part of the tibiæ and over the patellæ testify to the truth of this statement.

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* Read at the Provincial Meeting of The Society for the Study of Disease in Children at Bedford, June the 15th, 1907.

A second type of case is seen by the surgeon, because the gait is shambling, and the child walks with short steps and the knees bent. He is found to be unable to make longer steps without bending the knees more. This child, too, is incapable of taking the same amount of walking and running exercise as his schoolfellows.

A third variety is that in which a sprained ankle is constantly occurring.

A fourth class of case, and the most frequently met with, is the child who comes to you with so-called flat feet, these members being held in an everted position. Yet if you carefully observe the feet you note that while there is undoubted eversion present the arches have not fallen. The reverse is often the case, and the arch is exaggerated.

A fifth type is the child brought to see one in consultation because he turns his toes in and walks on the outer side of the foot.

Now all these different clinical states are referable to one underlying cause. In the normally constructed individual, if the knee be fully extended, and the important point is in the word *fully*, the foot is capable of dorsiflexion, so as to make an angle of 72° with the leg, that is, 18° less than the right angle. This fact can be readily verified by measurement with the goniometer I show you. In the act of walking at one particular moment it is essential that this power of complete dorsiflexion of the foot should be fully exercised. For example, when the step forwards is being taken, presuming that the right leg is in advance, the left foot is at that moment firmly planted toe and heel on the ground, bearing largely the weight of the body. In order to give the impetus to the stride, and at the same time to maintain the weight of the body, the left knee is fully extended, and the foot is dorsiflexed at the ankle to the extent of 18° less than a right angle. If the angle of dorsiflexion be decreased the stride must be accordingly lessened, or the patient will be in uncertain equilibrium if he attempt to take a long step. The explanation of all the clinical phases I have described above is found in varying degrees of loss of the angle of dorsiflexion. Loss of dorsiflexion is due, in these cases, to some degree of contraction of the calf muscles and of the tendo Achillis. Clinically we find that the usual condition is that the foot, with the knee fully extended, cannot be dorsiflexed beyond a right angle. Sometimes the condition is not so marked as this, there being 5° or even 10° of dorsiflexion; but the fact remains that free movement at the ankle in the direction of flexion is limited, and it invariably produces unpleasant results.

Thus in the first type of case brought to your notice the child becomes tired because his stride is habitually shortened, and the strain upon the calf muscles and tendo Achillis accounts for the pain and weariness in those parts.

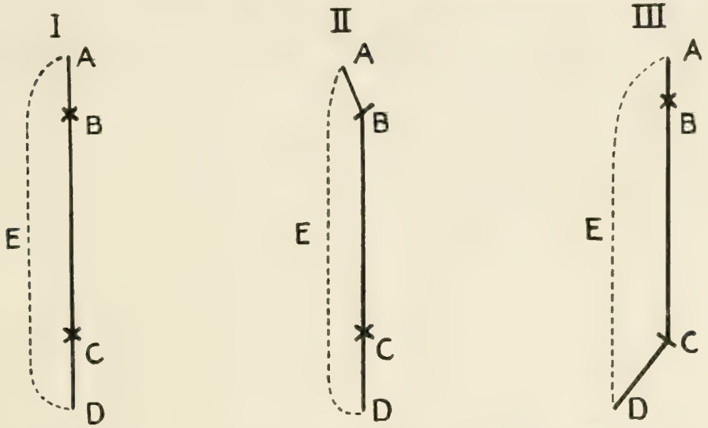

Fig. 1.—To show how the effort of compensating shortened calf muscles and tendo Achillis either by bending the knee or by inversion or eversion of the ankle is effected. A = point of attachment of gastrocnemius at the lower end of the femur. B = knee-joint. C = ankle-joint. Between B and C = tibia and fibula. D = point of attachment of the calf-muscles into the os calcis. E = dotted line representing the calf-muscles and tendo Achillis. In I the structures are presumed to be normal. In II the calf muscles and tendo Achillis are shortened and the knee is bent so as to lessen the distance A—D between the lower end of the femur and the tuberosity of the os calcis, but the ankle is neither inverted nor everted; this is drawn in an antero-posterior plane. In III, the calf-muscles and tendo Achillis being shortened, the knee is held straight, while the ankle is inverted or everted to lessen the distance A—D between the attachments of the calf muscles and their tendons; this is drawn in a transverse plane.

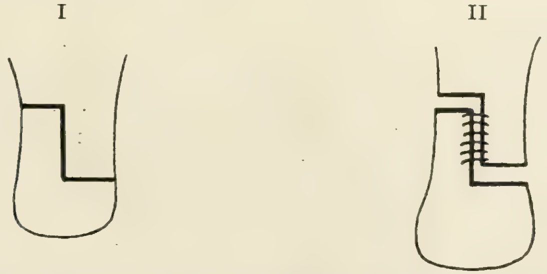

Fig. 2.—I, Tendo Achillis with Z-shaped section. II, The two portions of the tendo Achillis have been slid on each other to the required length and are united by sutures.

In the second type of case, the child with shambling gait, the explanation is quite obvious. If the calf muscles and tendo Achillis are too short one of two things must result if rapid progression is desired. The child must either walk partly on his toes, with the heels slightly off the ground; or bend the knees so as to relax the calf muscles and tendons, and thus obtain full dorsiflexion at the ankle.

In the cases with frequently sprained ankles the explanation is that the habit of bending the knees in walking has not been learned; and at the particular moment in striding forwards I have above indicated the foot in the rear is not planted firmly on the ground, but is in a condition of unstable equilibrium, so that if it rests on any inequality it is readily twisted inwards or outwards, and a sprain results.

In the fourth and fifth phases, the flat-footed child and the child walking with inverted feet, the mechanics are equally simple. The distance between the lower end of the femur and the heel can be shortened to accommodate the contracted structures in one of two ways, either by turning the foot outwards or inwards at the ankle. In both cases, in place of two parallel lines, composed of the lower end of the femur, the tibia, the astragalus and os calcis on the one hand, and the calf muscles and tendo Achillis on the other, lying in the same vertical plane, a triangle is formed. The base of the triangle is the shortened muscles and tendon, the apex of the triangle is at the ankle. One side, made up of the bones above the ankle, is much longer than the other, composed of the bones below the ankle-joint.

This simple and seldom described condition of contraction may always be suspected if the heads of the metatarsal bones are found to be prominent in the soles of the feet, and is certainly present when a row of corns is found over the projecting bones. In many cases, if allowed to proceed unchecked, the condition develops into ordinary talipes equinus, about which no doubt can exist. But the object of these remarks is to insist upon the necessity of recognition and the importance of treating these slighter degrees of contraction.

A word at this point as to the method of examination of the child. He should be seated, the knee fully extended, and the foot brought into a straight line with the leg. The foot should then be slowly dorsiflexed, and the moment resistance is encountered or pain is elicited passive movement should be stopped and the angle taken by the goniometer.

Caution is necessary. No abrupt nor rough movement must be used in ascertaining the angle of dorsiflexion, or spasm will be set up in the calf muscles, and the degree of contraction will appear larger than it is. The movement of dorsiflexion of the foot should be slow, gentle, and steady, and the child's attention distracted while it is being tested. The bones above and below the ankle must be held in one right line, and it often happens that one examination is not sufficient to determine the degree of the trouble nor to decide what line of treatment should be adopted. If the child is cold, frightened, or fatigued the extent of loss of normal movement is often exaggerated. It is advisable in many cases to see the child on a second occasion, when it has had a night's rest, and when the parts are warm. These conditions may make a difference of 5° to 10° in the estimation of the angle.

As to the cause of this right-angled contraction of the tendo Achillis, it is found to be in most cases due to infantile paralysis, the incidence of which has fallen mainly upon the anterior muscles of the leg, which have all but recovered; in fact, by the ordinary tests they appear to have entirely recovered, but it is evident that the recovery is not quite complete, or there is a slight loss of balance between the anterior and posterior muscles, as is shown by the dropping of the foot when it is lifted from the ground. If equilibrium be once disturbed the calf muscles gain a mechanical advantage and contracture follows. The difficulty of walking and the symptoms described to the surgeon frequently begin after an exanthem, such as whooping-cough or measles, which I venture to think are more often associated with neuritis of the external popliteal nerve than is suspected.

Another set of causes is associated with throat lesions, such as tonsillitis of a doubtful nature and diphtheria. And in Anglo-Indian children I am frequently told that the child has suffered from one or two attacks of "fever," whatever that may mean.

The question of treatment is sometimes a difficult one. If the foot of the fully extended limb be incapable of dorsiflexion beyond a right angle, I am convinced that the proper thing to do is to lengthen the tendo Achillis. This should not be done by simple section, as it is not easy to regulate the exact length of the band of new tissue between the severed ends of the tendon. It is difficult to prevent the parts healing with too long a union, so that talipes calcaneus results. Therefore I practise an open operation, in which the tendo Achillis is lengthened to the requisite amount by the **Z**-shaped method. A transverse incision is first made half way through the tendon, and then the knife is carried vertically downwards for a distance of a half to one inch. It is then turned on the flat, and the remaining part of the tendon cut through transversely. The two portions are slid upon one another until the requisite degree of lengthening, which can only be learned by experience, is obtained, and then they are stitched together (Fig. 2). In this way firm union is obtained, and all risk of undue lengthening avoided. In those cases where there is only a diminution of 5° or so of the angle of dorsiflexion an immediate operation is not to be advocated, but passive and active movements, designed to stretch the contracted structures, should be sedulously practised, and much assistance is afforded by prescribing a surgical boot, with an outside steel to the calf and a toe-uplifting spring, the constant action of which stretches the shortened soft tissues. If this manœuvre fails we can always resort to the simple operation previously mentioned.

When I was hill-climbing, I often wondered why guides could stand on hill-sides where I could not, and that after making every allowance for their training. I was beginning to see the reason, when Dr. Wherry, of Cambridge, brought out an interesting book on 'The Climbing Foot,' showing that the normal range of movement at the ankle of mountain climbers was 10° to 15° greater than that of town dwellers. One night in the summer, at a remote mountain inn, where there were many guides assembled, I persuaded them to allow me to measure their range of movement. In some cases I found it exceeded my own, which is normal, by 20°. Last winter I was at another mountain place in Switzerland, and was talking the point over with a public school master, when the latter said at once that it explained why some of his men could not row for long without fatigue, and he found them unable to make proper use of the sliding seat. He has undertaken to supply me with observations on the point.

A CASE OF CONGENITAL DILATATION OF THE COLON.*

By Henry Skelding, M.B., B.C.,
Surgeon to the Bedford County Hospital.

A. S—, aged 9 years, was admitted into hospital on the first occasion at the age of six—three years ago. His condition then was the following: A dull, stupid-looking child with pinched expression, not anæmic. Circulation poor; chilblains both hands. Upper and lower limbs flabby and wasted.

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* Read at the Provincial Meeting of The Society for the Study of Disease in Children at Bedford, June the 15th, 1907.

Abdomen.—Soft, much distended, very prominent, with greater prominence over the sigmoid. Measurement at umbilicus 26 inches. Hyper-resonance. Marked bell-sounds. Marked vermicular movements. Is continually passing small soft lumps of fæcal matter. No diarrhœa. *Per rectum* nothing abnormal to be made out.

Family history.—Eldest of five children, others apparently healthy. No rickets, syphilis or tuberculous history; has been constipated since birth, and always had a "big belly."

During his stay in the hospital, he had turpentine enemata every other day; with dieting, the abdomen diminished from 26 to 22 inches.

He left the hospital but slightly improved. He was re-admitted on June the 12th, 1907, and, after careful dieting for ten days without any improvement and the child seemingly losing control of his sphincters, constantly passing small pellets of fæces, I decided upon a laparotomy. An incision was made in the median line below the umbilicus. On opening the peritoneum the *transverse* colon, enormously distended, protruded, and was with great difficulty kept back. The whole course of the bowel was traced and presented the following conditions: The small intestine was flabby, anæmic, and contracted and empty, the ileo-cæcal valve and *ascending* colon was in much the same condition, but evidently contained small lumps of fæcal matter and gas. On reaching the hepatic flexure there appeared to be a constriction, above which the *transverse* colon was enormously distended and full of gas. At the splenic flexure the distension ceased and the *descending* colon and sigmoid appeared collapsed, containing no gas or fæcal matter. The *transverse* colon appeared to have "glissaded" forward, forming an acute bend at the hepatic and splenic flexures.

The somewhat severe manipulation caused temporary collapse, necessitating greater expediency. The omentum, previously tucked up out of sight, was brought well down. The transverse colon was manipulated, emptied of gas, and pushed well up, and the abdominal wound sewn up as usual. With the exception of the mental condition the patient steadily improved. The last report from the mother was that the child was going on well and had complete control over his sphincters. I can only attribute the improvement to the manipulation of the bowel and the replacement of the transverse colon. The abdominal measurement when the child left the hospital was twenty-two inches.

A CASE OF RHEUMATIC HYPERPYREXIA IN A CHILD OF SIX.*

By G. H. Lock, M.R.C.S., L.R.C.P., D.P.H.

This rare and fatal complication of acute rheumatism hitherto, as far as I can discover, unrecorded in so young a patient, occurred recently in a girl, aged six years, whom I had attended at birth and since whenever she was ill.

Her father had worked in compressed air caissons for years and always successfully passed the periodical medical examinations to which such workers are subjected. Her mother was young and perfectly healthy. A maternal aunt had suffered from rheumatism, otherwise the family history was free from this disease and good in other respects.

The child, with the exception of measles followed by whooping-cough, enjoyed good health during infancy. She grew up healthy, of alert intellect, and engaging disposition and manners.

A year ago she passed through an attack of chorea which subsided during six weeks' complete rest in bed, and when she was brought to me in January of this year to report progress she was fit and well, with the exception of a rough systolic murmur at the cardiac apex. I could not make out that the heart was appreciably enlarged, but the murmur was conducted into the axilla.

On September the 10th of this year she sickened for left lobar pneumonia which, with a temperature ranging between 102° and 103° F. and no uncommon features, terminated by crisis on the fifth day. A day or two after this crisis there was a return of the choreiform movements which, at first mild and confined to the left side, subsequently became general and severe.

On September the 20th pain in the left hip was complained of, and the temperature rose to 100° F. The child was enveloped in cotton-wool, and salicylate of sodium (5 gr.) in an alkaline mixture was given every four hours.

On the next day (September the 21st) other joints were involved, the temperature was 101° F., and the case was a typical one of acute rheumatism with chorea. The dose of salicylate of sodium was doubled.

The following day (September the 22nd) at 11 a.m., the temperature was 105° F. After tepid sponging the nurse reported a drop to 104·5° F. Salicylate of sodium (10 gr.) was administered every hour. At 6 p.m. the temperature had risen to 107° F. An ice-pack was ordered, and at 8.30 p.m. the temperature had fallen to 105° F. This application of cold was not well borne; alarming cyanosis and embarrassment of respiration followed. The heart distinctly dilated, and the sounds were almost inaudible. A drachm of brandy was given and ordered every hour throughout the night; the salicylate with the addition of 3 minims of tincture of digitalis was continued. Ice was kept applied to the head and nape of neck.

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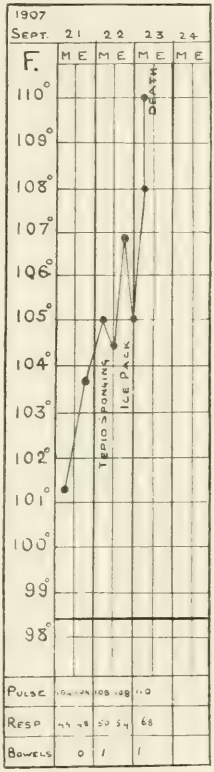
* Read at The Society for the Study of Disease in Children, November the 15th, 1907.



The next day (September the 23rd) at 10 a.m. the temperature was 108° F., pulse 110, respiration 68. A graduated bath was prepared, but, while waiting for a fresh supply of ice and before immersion, the temperature in less than an hour rose to 110° F. At this moment death occurred somewhat suddenly. An hour after death the temperature was 109° F. These temperatures were taken in the *rectum* by a trained nurse and verified by me. The last observation was kindly confirmed by Mr. S. H. Greene, of Kensington.

The onset of this period of abnormal temperature was not associated, as far as the chorea would allow me to observe, with any fresh endo- or pericarditis. The swelling of the joints was not so marked, but it was impossible to obtain anything from the child as to the degree of pain in them. The pulse, though feeble, was never greatly hurried, but the respirations were very frequent (60–68) and noisily panting in character. The most marked feature was the complete suppression of sweating. There was a plentiful crop of sudaminal vesicles from former sweats, but the skin was quite dry and pungently hot throughout.

There was no sleep during the presence of the hyperpyrexia; on the other hand there was no delirium or mania. The child, though dazed, asked for and knew her mother to the end, and the severe choreic movements ceased only with death.

I have searched through many writers for mention of this termination of cerebral rheumatism in childhood with negative results. That it must be extremely rare is evidenced by the remarks of Sir W. S. Church in his article on "Rheumatism" in Allbutt and Rolleston's

'System of Medicine,' 1906. In writing of hyperpyrexia, he states (vol. ii, part i, p. 625):

"Its occurrence in early childhood is as yet unknown," and, further, "no age period, if we except early childhood, appears exempt." In the same volume Dr. Cheadle, writing under the heading "Rheumatism in Children," states that he has never met with a case of hyperpyrexia, and that the youngest case of which he can find any record is that of a girl, aged 13 years.

The Society for the Study of Disease in Children.

A MEETING of the Society was held on November the 15th, 1907, Dr. GEORGE CARPENTER in the chair.

A Paper on a Case of Rheumatic Hyperpyrexia in a child, aged 6 years, was read by Dr. G. H. LOCK (introduced). The child a year previously had had an attack of chorea; on September the 10th, 1907, she had left lobar pneumonia, which terminated by crisis on the fifth day; two days after the crisis the choreiform movement returned. On September the 20th there was pain in the left hip, and the temperature rose to 100° F. Subsequently other joints became involved, and the case was a typical one of acute rheumatism with chorea. On the third day the temperature rose to 107° F.; in spite of treatment by ice-pack and graduated bath, death occurred on the fifth day, the temperature just before death being 110° F. The severe choreic movements ceased only with death.

The CHAIRMAN (Dr. GEORGE CARPENTER) thanked Dr. Lock in the name of the Society for his interesting communication, and said that he had many years ago seen a similar case to that now recorded, but he had not had sufficient leisure to search for the notes and give exact details, but he would find them and report to the Society later on.* Briefly, the child was younger than the present patient, a female some three or four years old. Hyperpyrexia occurred during an attack of chorea and with a fatal issue. At the time there was double optic neuritis, and prior to the hyperpyrexia rheumatic nodules, and antecedent to the chorea rheumatism. Hyperpyrexia was not confined to rheumatism. When resident medical officer at the Evelina Hospital for Children many years ago, he was in the habit of using the continuous hot wet pack in the treatment of acute renal disease, the patient being wrapped in a blanket wrung out of boiling water and surrounded by a mackintosh covered by a blanket. The temperature of the pack was about 130° F. If the temperature was not frequently taken during its administration, as a matter of precaution, there was risk of danger to life. One of the patients died, and he recorded the cases in the 'Practitioner.'†

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* "A Fatal Case of Chorea associated with Double Optic Neuritis and Hyperpyrexia in a Child of 3½ years," 'Lancet,' November the 30th, 1907; also Abstract, p. 554, current issue.

† 'Practitioner,' September, 1888, No. 243, vol. xli, No. 3, "Dangers of the Continuous Hot Wet Pack," by George Carpenter.

Case 1 was that of a boy, aged 7 years, who was admitted into hospital with the objective signs of renal disease on June the 2nd. He had one third

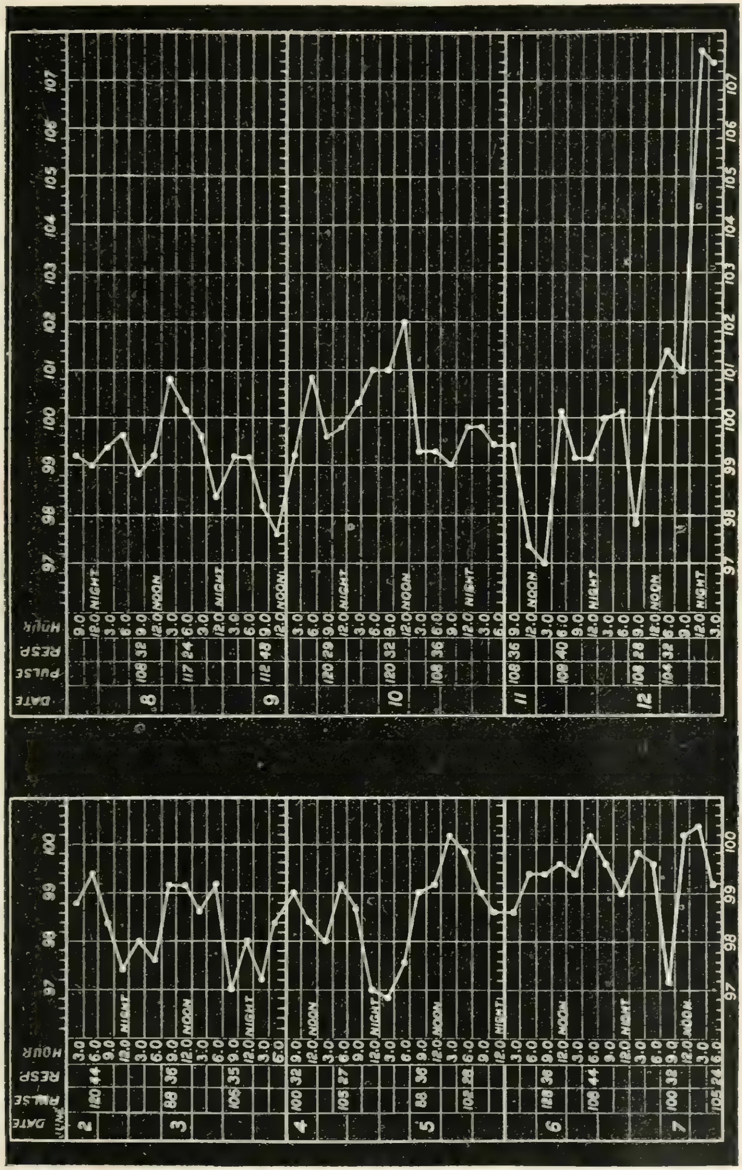

CHART I, CASE 1 (first part).
Temperature taken in axilla.

albumin; the pulse-rate was 88 to the minute, the respiration-rate 40 to the minute. He was ordered the continuous hot wet pack. On the seventh day he was suffering from pustular dermatitis, and on the twelfth day the temperature suddenly ran up to 107·6° F., over 6° F. between 9 and 12 midnight. From the time of his entry into hospital there had been some rise of temperature, but the highest previous record was 102° F. During the hyperpyrexia he was delirious, the face was pale, the lips parched, the tongue dry, the skin burning hot, and restlessness was extreme. He was taken out of the pack and sponged with water at a temperature of 90° F. After twenty minutes' sponging the body temperature had fallen to 104·2° F., in one and a half hours after the commencement to 102·3° F., and it continued to fall hourly until it reached 99·8° F.

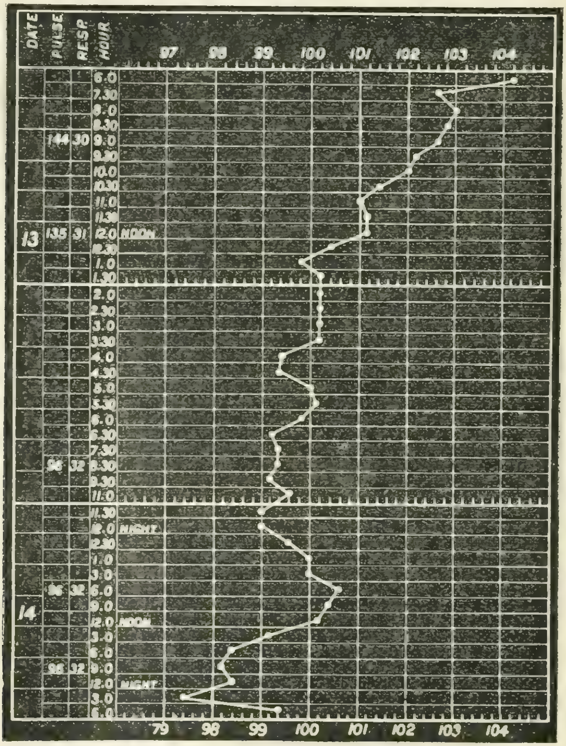

CHART II, CASE 1 (second part).
Temperature taken in axilla.

The next case was that of a boy, aged 3¼ years, who was admitted into hospital on January the 25th suffering from nephritis; the pulse-rate was 116 to the minute, the respiration-rate 40 to the minute, and the temperature subnormal. From the moment the continuous hot wet pack was started the temperature began to rise, and by midnight the following day it was 102·8° F. It then rapidly rose, and at 7 a.m. it was 107·2° F. He was very sick, the face was livid, the lips cyanosed, the respirations very rapid, the pulse barely to be counted, and he was tossing about his cot and delirious. He was sponged with water at a temperature of 95° F., which was cooled down to 60° F. Shortly after sponging commenced the delirium passed away and all urgent symptoms quickly disappeared. In half an hour the temperature had fallen to 100·2° F., and twenty minutes later it was all but normal, and at nine it was 97·2° F.

The third case was that of a girl, aged 2½ years, suffering from acute nephritis with a temperature of 102·2° F. The pulse-rate was 120 to the minute, and the respiration-rate 32 to the minute. The chest was resonant, but a few râles were audible back and front. She was ordered a continuous hot wet pack. Three hours after admission into hospital the temperature had fallen to 96·8° F. At 3 o'clock the following morning it was still subnormal, but from that time it rapidly began to rise until at 9 o'clock it was

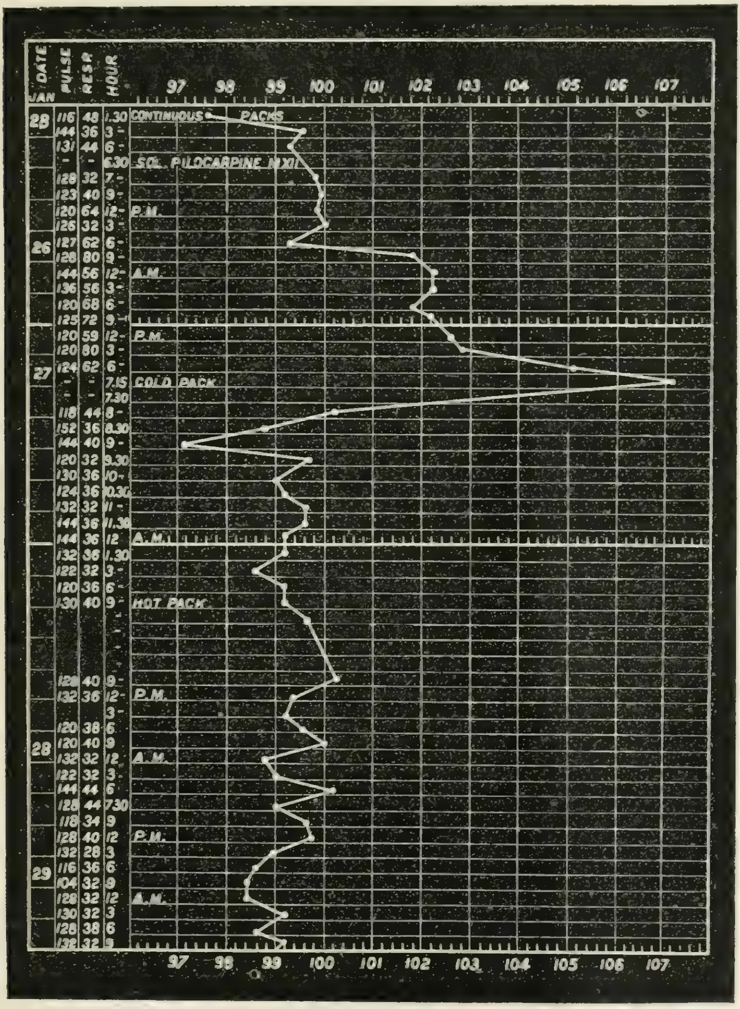

CHART III, CASE 2.

Temperature taken in axilla.

105·2° F. Her face was then pale, her lips blue, and she was restless. By 11.30 the temperature was 107·2° F. The respirations were then very

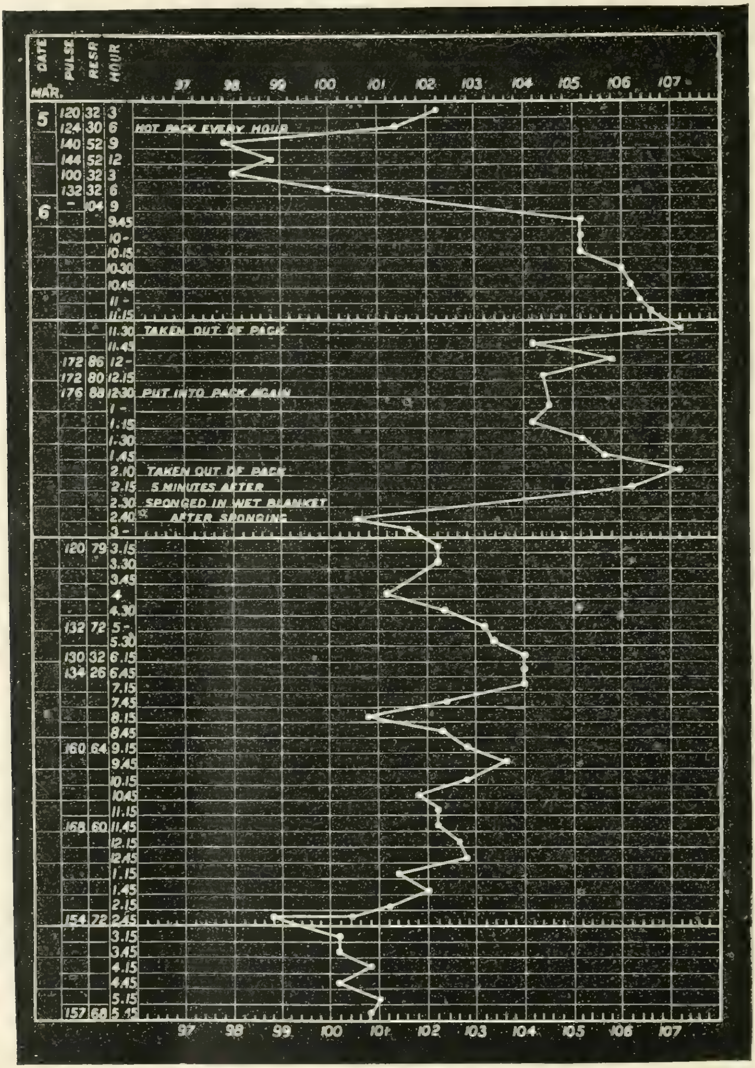

Chart IV, Case 3 (first part).

Temperature taken in axilla.

rapid and sniffing and she was very irritable. She was removed from the pack and wrapped in a dry blanket. A quarter of an hour after removal from the hot wet pack the temperature had fallen to 104·2° F. She was again replaced in the continuous hot wet pack and with the same result;

the temperature, which at 12.30 was 104·4° F., had risen by 2.10 p.m. to 107·2° F. Convulsions then came on, she was more cyanosed, the face was ashen, the respirations very rapid, and the pulse at the wrist barely distinguishable. Previous to this she had been irritable, with periods of occasional delirium, and she was sick once. Judging her symptoms to be urgent, I gave her a cold douche from a water-jug which was close at hand and followed this by sponging. As she regained consciousness she began

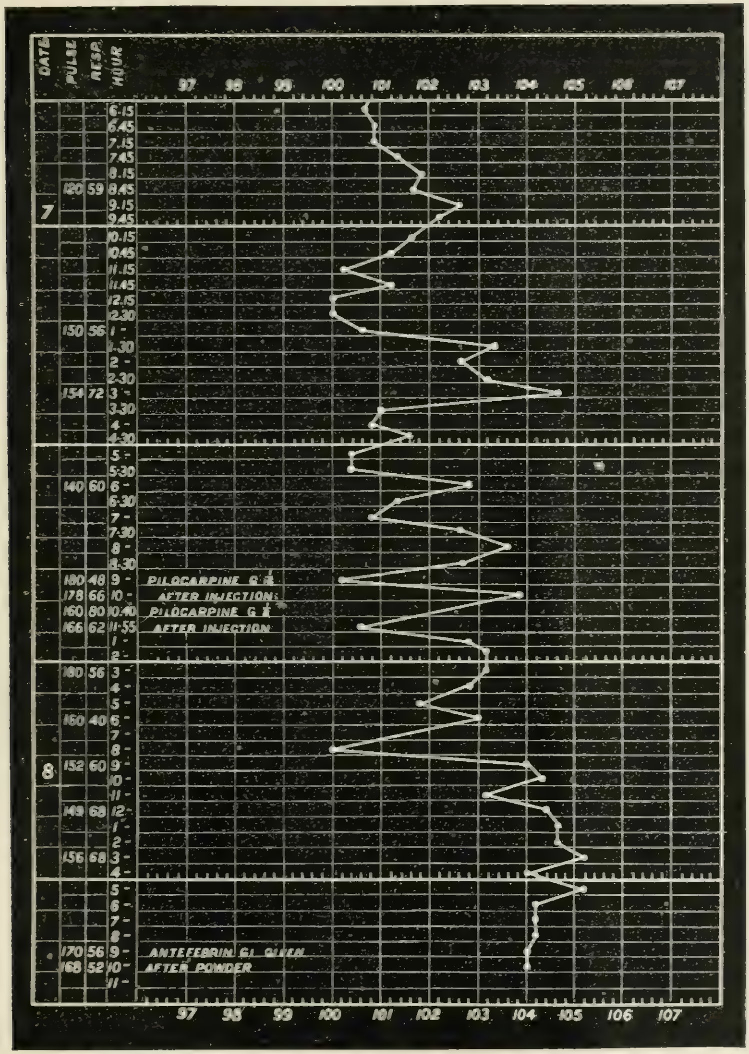

Chart V, Case 3 (second part).

Temperature taken in axilla.

to gasp, and subsequently asked for water, and declined to take milk when it was handed to her. Her mother visited her at 6.45; she knew her quite well and talked to her. The respiration-rate was then 26 to the minute and the pulse-rate 134 to the minute, the temperature being 102° F. From that time she went downhill; the respiration-rate was increased (68), the face was pale, sickness supervened, she passed into a drowsy state, subsequently became very restless and delirious, and on the day following the onset of hyperpyrexia the physical signs of pneumonia were detected. She died at 11 p.m. that night; the temperature never rose above 105·2° F. At the autopsy there was general œdema of the lungs together with areas of red and grey hepatisation.

Two of the children sweated, one freely, the other slightly, right up to the hyperpyrexial stage. In one sweating had entirely ceased for many hours prior to the advent of hyperpyrexia.

Although some children may be placed in a continuous hot wet pack for days even without an untoward symptom, in others trouble is threatened immediately. Thus in one child it rose from 99° F. to 105° F. in twenty minutes, and in a subsequent experiment from 100° F. to 104·2° F. in three quarters of an hour. When using, therefore, the continuous hot wet pack it is necessary to keep an eye on the thermometer.

Dr. F. J. **Poynton** said that though very rare in children hyperpyrexia was not so rare in French literature. Three years ago he had a case in a child, aged 11 years, of which he published the full necropsy; it was remarkable firstly in that it obviously had an attack of rheumatism, but satisfactorily reacted to treatment. After a fortnight's convalescence, while still under treatment by salicylate, the child developed headache and fever and died. The temperature in the rectum was 106° F., whereas in the axilla it was never more than 102° F., as repeatedly verified. There was an organic lesion, namely, spinal and cerebral meningitis. At the discussion an attempt was made to show that it was not rheumatic, but without success; the organism was not the pneumococcus. That was the only case of hyperpyrexia in a child he had seen.

Dr. G. A. **Sutherland** said his experience was that hyperpyrexia must be very rare in childhood; he had not met with a case. In 1882 the Clinical Society appointed a special committee to investigate the question of hyperpyrexia in rheumatic fever. They collected particulars of forty-seven cases, none of them being under ten years of age. He hoped Dr. Carpenter would find the notes of his case, because their inclusion would add to the value of the 'Reports.' In the Clinical Society's report the chief treatment referred to was by means of cold, and Dr. Lock seemed to have applied cold to his case, without benefit. He believed cold was not well tolerated by children with a high temperature; but there were some advocates of cold in the profession, such as Dr. Lees. Dr. Lock referred to the extreme dryness of the skin, and when that was present hot applications appeared to be indicated rather than cold.

Dr. C. O. **Hawthorne** said it was well to keep clear two classes of cases: one in which, as in the case just narrated, there was great elevation of temperature associated with some other active manifestation of rheumatism, such as chorea, and the other in which the high temperature appeared without any apparent organic explanation. In chorea, when there were such complications as endocarditis and pericarditis, the occurrence of a high temperature was not very uncommon, *i. e.* in severe and fatal cases. In adults, when speaking of hyperpyrexia, one generally meant a high temperature for which there was no obvious organic explanation. A marked feature of rheumatic hyperpyrexia in the ordinary use of the term was the cessation of all other active evidences of the disease. Therefore such cases as the present he would be disposed to call hyperpyrexia in rheumatic chorea, rather than merely rheumatic hyperpyrexia, as this latter term implied that the case exactly corresponded to the condition so named in adults. He had never seen a case of pure rheumatic hyperpyrexia in a child, but in view of the distinctly curative value of the cold bath when this condition occurred in adults, he would feel it impossible not to urge it in even a patient of tender years.

Dr. Frederick Taylor said the subject of the treatment was a very difficult one, because although the symptoms were sometimes removed by the use of cold, and therefore one might say the high temperature must have been the cause of the symptoms, yet in fatal cases where the temperature had been often reduced by cold there must be some other factor besides high temperature. It seemed likely that a toxine was operating in such cases, partly upon the cerebral centres, but probably also on other organs. Though he had not experience of that condition in children, it seemed obvious that cold should be brought into operation as soon as possible. Once, in an adult, he was very successful by rubbing pieces of ice over the surface of the body. The patient had a temperature of 107·5° F., and was comatose; there was no bath available, nor any means of immediately applying cold in any other way. After the use of the ice the patient became conscious and ultimately recovered. This treatment might not succeed in every case, and its use in a quite young child might have to be very carefully considered.

The Chairman (Dr. George Carpenter) said that in one of his cases of artificially induced hyperpyrexia the child had succumbed to pneumonia after application of cold, but whether it resulted from his action or not he was not prepared to say, but he thought it possible that it was so. Dr. Sutherland had spoken of the application of cold according to Dr. Lees' practice. He had found children bear cold well in the shape of the ice bag to the chest in cases of pneumonia. This application, in his experience, was tolerated, unless it was placed over the area of the heart. If placed there the child soon became collapsed.

Dr. Lock, in reply, said when the temperature was 105° F. tepid sponging was carried out, but its effect was only slight. The evening temperature being 107° F., an ice pack was applied, and that nearly killed the child, but its effect was to reduce the temperature 2°. The following morning the child died before he could apply the bath. If he had a similar case in future, which did not sweat, he would employ a hot pack.

Notes on a Case of a Fractured Lower Jaw in a Child, aged 4 years, were read by Dr. Eldon Pratt (Henfield). The child had been kicked by a horse, and the fracture was vertically through the symphysis. It was treated by a dental splint. Union was firm at the end of fifteen days, and a perfect result was obtained, there being complete absence of any deformity.

Notes on a Case of Vaccinia were also read by Dr. Eldon Pratt. The patient was a baby who was vaccinated when six days old in four places on the left arm. Six days later all four places had taken well; ten days later there was extensive ulceration over the arm, measuring $3\frac{3}{4}$ in. by $4\frac{1}{4}$ in.; the surrounding skin was much inflamed, and there were pocks of auto-inoculation near the left axilla and over the right ribs. The whole of the body, face, and limbs, were covered with a diffuse papular rash. The condition rapidly subsided under boracic fomentations.

Dr. C. W. Chapman asked whether there was anything wrong with the drains, or whether the child's clothes were quite clean.

Mr. George Pernet said he had seen a case somewhat similar in which the vaccine pustules became confluent and formed a large ulceration, with much brawny infiltration extending down the arm. It got well very slowly, despite careful treatment. The papular eruption to which Dr. Pratt referred was the result of a toxine, which was brewed on the ulcerating surface. Such a rash was formerly called vaccine lichen. He had seen several cases of generalised vaccinia in which all the lesions went through the regular stages of vaccine lesions. He considered they were the result of inoculation from the original vesicles. Trousseau pointed out that the vaccine papule could be reproduced by experimental inoculation with diminishing reaction up to the tenth day.* In Dr. Pratt's case the complication at the seat of the inoculation was perhaps the result of infection from the child's nails.

Dr. Frederick Taylor said he had not much to do with vaccination, but the Chairman might remember a case at the Evelina Hospital in which a fatal result ensued. Dr. Pratt had suggested that there was an undue inherited disposition in the patient to suffer from the vaccine virus, but, as Dr. Chapman suggested, many cases were attributed to external sepsis. He would be glad to hear the modern view on the subject. The case he had under his care at the Evelina Hospital, in regard to which he was required to give evidence before the Vaccination Commission, presented over the whole shoulder an infiltrated sloughing mass, and there were two or three vesico-pustules on the chest, exactly like original vaccine vesicles. The vaccine poison in that case appeared to operate upon other parts than those at which it was originally introduced. The mother was in a comfortable position, and she had her own medical man, who said he had vaccinated the child most carefully with a clean needle, and another child had been vaccinated with the same lymph, and was perfectly well. Possibly the chest was inoculated from the arm.

The Chairman (Dr. George Carpenter) said that in the out-patient department of a children's hospital cases of vaccination not infrequently came under notice, and in his experience urticaria papulosa was a not infrequent sequel of vaccination, and in those predisposed to it urticaria vesiculosa and urticaria pustulosa also arose. Further, erythema multiforme was also occasionally seen. He had also seen considerable œdema of the corresponding hand and arm, and also even erysipelas. Pustular dermatitis from pus inoculations were also not uncommon. In isolated examples true vaccine inoculations occurred from the transference of the vaccine virus to other situations of the body—the face, for instance. He had vaccinated himself some years ago, and with disastrous local results, for his arm became as large as a leg and he subsequently experienced three months' illness. Certainly he had apparently protected himself from smallpox, for he subsequently saw many cases of smallpox, but although he had adopted precautions to ensure a clean vaccination operation he had evidently failed in his endeavours on that occasion, and he thought Dr. Pratt had been equally unfortunate. There was another explanation, that vaccine virus might not have been free from pyogenic organisms.

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* Trousseau, 'Clinique Médicale,' vol. i, 1865, p. 64.

Dr. PRATT, in reply, said he could not agree that it was a septic case at all. The house was in a good sanitary condition, and the mother had a comfortable home. He was very particular about sterilising everything. He thought there was an inherited predisposition to react vigorously; the child was only six days old when it was done. The baby's brother, four years before, and the mother herself also reacted violently. Should re-vaccination be done in seven years' time he believed there would be the same result. Mr. Pernet did not seem to have grasped the fact that the case was described as generalised vaccinia, not from the fact of the papular rash, but that there were two lesions of auto-inoculation, one near the left axilla and the other over the right lower ribs, and each of them went through all the stages of a vaccinia pustule. The papular rash had disappeared in twenty-four hours, and he did not think there was any sepsis. Ordinary fomentations were very successful.

A Case of Intention Tremor in a Child, aged 5½ years, was shown by Dr. L. A. CLUTTERBUCK. Labour was tedious, and was completed with instruments. No history or evidence of syphilis. The child was backward mentally, and did not walk until she was three years old. There was coarse intention tremor of the hands, and marked inco-ordination and spasticity of the lower limbs. The knee-jerks were increased and Babinski's sign was present. There were no changes in the fundi oculorum.

Dr. E. CAUTLEY thought it belonged to the great group of cerebral diplegias, resulting from either injury at birth or incomplete development at birth. From the history of difficult labour he gathered there had been either slight meningeal hæmorrhage, or possibly encephalitis, and that the effects had fallen on the motor cells of the cortex. From a physical examination he thought the child was not quite as bright and intelligent as she should be at her age. He thought the prognosis in that kind of case was rather good; that she would improve considerably.

Dr. G. A. SUTHERLAND would hesitate to suggest disseminated sclerosis in a child, as the author had done, especially where the symptoms had apparently dated from birth. It was a very rare affection in early life. Possibly there was a cerebellar lesion which would account for some of the symptoms of marked intention tremor. The mental backwardness was rather marked in this case, and there was spasticity of the limbs. He agreed with Dr. Cautley in thinking the original lesion was meningeal hæmorrhage. This had probably affected the cerebrum generally, and probably also the cerebellum. If it were simply a case of non-development or delayed development of the cerebellum there would not be spasticity. Dr. Cautley gave a hopeful prognosis, but he, Dr. Sutherland, would give a grave prognosis, as the child had been suffering from birth up to five and a half years of age. He thought the spasticity would tend to increase and that the mental development would be delayed.

Dr. F. J. POYNTON did not think the peculiar tremor was associated with either the cortex cerebri or the cerebellum, but with a lesion of the red nucleus. He agreed that it probably dated from birth, and that there was probably some diplegia. He agreed with Dr. Sutherland's less hopeful prognosis rather than with Dr. Cautley's.

Dr. CAUTLEY explained that his prognosis was not that the child would get well, but he thought that as the brain developed the child would learn to accommodate its muscular movements in a more orderly manner, and in that way it would improve.

Dr. F. Parkes Weber asked whether there were any signs of congenital syphilis in the case. Cases had been published of what might be termed "syphilitic multiple sclerosis in children." True multiple sclerosis was very rare if it occurred at all in children.

Dr. Clutterbuck, in reply, said he only suggested disseminated sclerosis with much diffidence; he was inclined towards it being a cerebral lesion. Sahli spoke of definite ataxia and intention tremor due to lesions of the cortex. His own and the father's impression was that the case was improving; the child made better efforts to do things, and was now walking better. There was no history of syphilis in the family, nor indication of it in the child. A second child, born a year or two later, was healthy and sound in every way. He would try to bring the case again later.

A Tuberculous Tumour of the Pons in a Boy, aged 11 years, verified by Calmette's Ophthalmo-reaction, was shown by Dr. George Carpenter. The first application of Calmette's tuberculin test applied some weeks previous was unsuccessful. Subjective symptoms commenced in August; optic neuritis and ophthalmoplegia externa appeared the end of September. He was now leading a fatuous existence, and had continuous incontinence of urine and fæces. He could answer questions rationally, and called out if he wanted anything. Headache was now rarely complained of, sickness had disappeared, the knee-jerks were absent, he lay curled up in bed, and although blind from choked discs, was contented. Dr. Carpenter was not in favour of trephining for the relief of the optic neuritis; he thought the drawback of a hernia cerebri, the improbability of ameliorating the local condition, and the possibility of bringing the child back to even a temporary recognition of its unhappy state contra-indicated any surgical interference.

Dr. Poynton agreed that there should not be an operation. Even if one were done he thought the sight would not return, but atrophy now would almost certainly result. Moreover, such operations often were not as successful as was hoped, and there was a danger of hernia cerebri, the leaking from the wound, and finally meningitis. It was strange how long such children might remain in the state of unconsciousness. A patient of his, first seen three years ago, remained unconscious from Easter last to a week ago, over six months, with a subnormal temperature for three weeks before death.

Dr. Porter Parkinson said that though he was strongly in favour of trephining in most cases of cerebral tumour where there were head symptoms, the present boy was so comfortable that it would be better not to subject him to the danger of operation. Operation was sometimes of great benefit. Last session he showed a child who had had convulsions, was at one time blind, had intense optic neuritis, and suffered from severe headache, convulsions, and vomiting. After the operation the headache and vomiting ceased, the sight returned, and the condition of the optic disc got so near normal that the average observer might regard it as normal. The child was still alive, and the symptoms of tumour had disappeared, while there had been no more convulsions.

Dr. C. O. Hawthorne agreed that the case was not one for operation, and said his experience of operation in cases of cerebral tumour was not an encouraging one. It was desirable to have on record not only cases where success was attained, but those in which trephining proved unsuccessful or disastrous. He asked whether in this or other cases repeated lumbar puncture had been tried. Drawing off the fluid twice a week or so would surely reduce intra-cranial pressure, and might therefore be as beneficial as trephining. He had tried it in two cases, one of which got well except that she was blind from optic nerve atrophy. The other was still under treatment. He asked whether the Calmette preparation used was the same on the two occasions. He had had a similar experience in a cerebral case, probably one of tubercular meningitis. The fluid preparation was first used, and there was no reaction; and a week later the solid tuberculin dissolved extempore, when there was a very marked reaction.

Dr. E. Cautley said that last February he showed a boy before the Society as a case of cerebral tumour. There was very marked double optic neuritis and paralysis of one external rectus, and he asked for opinions as to whether the case should be trephined. What he heard encouraged him to have it done, but the parents would not consent. The boy was now well except for the persistence of the double optic neuritis. No doubt some cerebral tumours became quiescent. In the present case it would be futile to operate. It was questionable whether improvement could be expected as the result of trephining in optic neuritis unassociated with the symptoms of increased intra-cranial tension.

Dr. Porter Parkinson said that in his case of cerebral tumour he tried lumbar puncture on two occasions, but could not get anything out either time. After that the operation of decompression was done.

Dr. George Carpenter, in reply, said his experience had been similar to Dr. Parkinson's, for he had twice attempted lumbar puncture in the case, but with negative result. With regard to Calmette's reaction, the fluid preparation was used in each instance; it had been obtained from the usual source, and there was no reason to suppose there was anything wrong with it. He was aware of instances where the test had been used in obviously tuberculous cases, but the reaction had not occurred, whereas on a second trial it had, and it had been proved to be correct post mortem. The assumption, therefore, in the present case was that the tumour was tuberculous. He remembered a small child many years ago with slow pulse and double optic neuritis who developed no other symptoms for months. The patient went to a convalescent home twice, and finally returned into the hospital and died of tuberculous meningitis. A small tuberculous tumour was found at the autopsy in the cortex cerebri, and he presumed that the optic neuritis was secondary to that; the meningitis was certainly secondary to the tuberculous tumour. Tuberculous tumours in the eye often grew very slowly, and he inferred from his observations on the fundus oculi that they could be of equally slow growth in parts of the body that could not be seen. He thought the illustration he had given would explain Dr. Cautley's case. He was glad members agreed with him as to the futility of operation in the case he had shown.

A Case of Œdema persisting since Birth was shown by Dr. Poynton. Child aged 2 years, male. Swelling of the feet been noticed since birth varying in amount; eyelids have been swollen in the mornings; there was well-marked swelling on the dorsum of each foot, with slight pitting on hard pressure. Urine normal quantity, faint trace of albumin and a few degenerative epithelial cells with scattered leucocytes; no casts or crystals. He thought that there was some renal fault of congenital origin.

A Case of Œdema persisting since Birth was shown by Dr. G. A.

SUTHERLAND. A girl, aged 7 months. The feet had been swollen since birth, the sole of each foot being tense and hard, while the dorsum was soft and pitted on pressure. Marked blueness of the hands and feet followed exposure to cold, but the hands were not œdematous. She had suffered for some weeks from lichen urticatus, with very large wheals on the head. There was no evidence of renal or cardiac disease. He desired to hear how such a case could be classified.

Dr. CHARLES W. CHAPMAN thought an elastic band should be tied round the feet to see whether the condition would get absorbed.

Dr. F. PARKES WEBER regretted that he had not seen the patient, but Dr. Sutherland's description reminded him very much of the symmetrical condition sometimes referred to as "acrocyanosis in young adults"; in that condition the slightest cold caused cyanosis of the hands, sometimes accompanied by a certain amount of actual swelling. If the swelling in the child's feet were really analogous, it might diminish with improvement of the general condition.*

Dr. T. R. WHIPHAM had no explanation to offer, but could relate another case which was very similar under his own care. He did not know whether the condition existed from birth, but apparently it had been noticed soon after. Both feet and the left hand were affected with a hard, tense œdema, and there was urticaria completely round the trunk, which varied in extent from time to time but did not disappear. The liver was considerably enlarged. The patient had recently died from bronchitis, and he had not yet learned what was the pathological report.

Dr. E. CAUTLEY said that in all such cases it was important to ascertain whether there was any family history of the condition, because there were hereditary cases of œdema of the lower limbs very much of the same type. Melroy reported that twenty-two out of ninety-seven members of one family, in six generations, were found to have suffered from it, and in every case but one it was congenital. It was not known whether the condition was due to blood stasis, or to a deficiency in the circulatory system, or lymph stasis, or absence of valves in the veins of the legs. Apart from the hereditary group, it was necessary to exclude cases depending upon renal inadequacy. In Dr. Poynton's patient it was suggestive that there were traces of albumin and renal cells, and it was possible there might be some renal inadequacy dependent on congenital malformation or on disease of the kidneys. Dr. Sutherland's case did not appear to have been thoroughly examined from that point of view. He believed the cases mentioned by Dr. Parkes Weber belonged to the cyclical albuminuria class. The dusky or bluish extremities were probably vaso-motor in their mode of production.

Dr. F. J. POYNTON, in reply, said he agreed with Dr. Cautley's view of his case. He thought the fact that there was slight œdema of the eyelid, the aspect of the child before he saw it in the hospital, and the fact that when the swelling in the feet was greatest the urine was less, pointed to renal inadequacy. He wondered whether any congenital specific taint had produced the condition, but there was nothing in the family history to show it. He hoped to show the child again on a future occasion.

A Case of Precocious Development of the Obese Type in a girl was shown by Mr. Russell Howard. He could find no evidence of any disease of the ductless glands or the accessory genital organs.

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* On the following day Dr. Poynton gave Dr. Weber an opportunity of seeing his case. Dr. Weber then believed the hard, white œdema of the feet to be a form of congenital trophœdema. Such a condition is said sometimes to be symmetrical, and there may be no history forthcoming of any similar trouble in the family.

Dr. F. Parkes Weber said he felt sure the case had no connection with what were ordinarily regarded as cases of "precocious development." There was nothing particular about this child except defective mental development associated with obesity. Bourneville in France had described somewhat similar cases.

Mr. Hugh Lett said he agreed with Mr. Howard's view of the case, that it was not one of precocious development, except in the amount of fatty tissue. His own case * at the present time was well ; he had increased considerably in size and weight. The ossification of the epiphyses had proceeded very rapidly. All the bones of the carpus were now ossified ; the bones in the epiphyses were not united but were very large. No tumour could be felt. There had not been an opportunity for testing for the presence of spermatozoa. He had now passed out of his mother's hands, and was in a workhouse, where the attendant said there were no signs of nocturnal emissions or of masturbation. Neither was there any evidence of sexual precocity. The boy's surroundings at home were very unsatisfactory, and that might have had something to do with the seminal emissions which were at first reported.

Case of Congenital Dislocation of the Hip-joint in a girl, aged 5 years, was shown by Mr. R. Warren. Skiagrams showed that the femur had a very small neck and no head.

Mr. Howard said the skiagrams appeared to him to show a very unusual picture of congenital dislocation of the hip. In regard to the success of Lorenz's method of treatment, he had treated a case of double congenital dislocation by this method with the following result. The right hip was first reduced with success, and then the left hip was treated. Unfortunately during the treatment the child developed measles, and the plaster had to be removed and the treatment stopped. The result was a complete failure in consequence. At the present time the right hip is properly in place and appears so normal that the case without the history would be considered one of left unilateral congenital dislocation. He advised that Lorenz's treatment should be carried out in the case shown.

Mr. Warren, in reply, said he had not had great experience in the treatment of such cases, but he had seen good results in the hands of Mr. Openshaw by such method of reduction, and it was worth trying.

A Case of Acute Arthritis of the Hip-joint in a Boy, aged 11 years, treated by Irrigation and Drainage, was shown by Mr. Hugh Lett. The patient had recovered with perfect movement in the joint. No bacteriological examination of the pus had been made, but it was probably pneumococcal in origin.

(1) A Case of Facial Paralysis in a Girl, aged 3½ years, with some Weakness of the Leg apparently due to Encephalitis ; and (2) **a Case of Lymphadenoma affecting the Cervical Glands in a Boy, aged 6 years,** were shown by Dr. Porter Parkinson.

Dr. F. J. Poynton said he would like to quote a case in support of Dr. Parkinson's view. He showed a case of double facial paralysis at the Medical Society of London as a case of probable fracture of the base, because the child had fallen down on his head. But there followed wasting of the leg, which had not been detected. He had no doubt now the child had double facial palsy, due to polio-encephalitis inferior, and it had also infantile paralysis, and that there had never been fracture of the base. The fall was the result probably, and not the cause, of the sudden illness.

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* "A Case of Precocious Development in a Boy of Four Years," 'Reports of The Society for the Study of Disease in Children,' vol. vi, pp. 200–203, with illustration.

Philadelphia Pediatric Society.

The stated meeting of this Society was held on Tuesday, November the 12th, 1907, Dr. David L. Edsall, President, in the Chair.

A Case of Ulcer of the Frænum Linguæ in an infant aged 13 months was shown by Dr. Herbert B. Carpenter. The child had been breast-fed for one month, although the mother had phthisis, and was afterwards fed from the bottle. It suffered from intestinal indigestion, and gained in weight very slowly. A month ago an ulcer was first noted on the frænum linguæ. It was about the size of a small pin's head, bled when washed, and steadily grew larger, extending almost to the tip of the tongue. The ulcer was round, one third of an inch in diameter, with elevated edges. It was indurated and pale, with a yellowish centre and slight purulent discharge. There had been little or no odour, and only slight increase in saliva. It was but moderately painful. Examination of a smear from the ulcer showed many pus cells and bacteria. A culture showed mixed infection, staphylococci and streptococci.

Dr. Theodore le Boutillier had recently seen a similar case in a child, aged 18 months, with pertussis. This ulcer was one half to three quarters of an inch across, deep orange in colour, without odour, discharge, or pain. It in no way bothered the baby. He had also seen two other ulcers lately, much smaller, which occurred in children with pertussis.

Dr. Francis B. Jacobs had also seen such a case, but the ulcer was much larger, indurated, and had a yellow slough on the surface. It looked very much like Dr. Herbert Carpenter's case.

Dr. J. Alison Scott said that this ulcer seemed to have much redundant tissue; he suggested making a section of the hypertrophied tissue. It might reveal a possible tubercular cause.

A Case of Acute Anterior Poliomyelitis in a boy, aged 2½ years, was exhibited by Drs. J. C. Gittings and S. S. Woody. While in perfect health the child had fallen from his high chair. On picking him up the mother found the legs paralysed. During the next four days he is said to have lain in a semi-stuporous condition, with fever, twitching of arms when handled, spasmodic contraction of the muscles of the back and neck, resulting in partial opisthotonos, with occasional sharp cries as if in pain. The sphincters were unaffected, and no general convulsions occurred. During the next two days the mental obscuration, fever, and motor phenomena lessened. On admission into the Children's Hospital of the Mary J. Drexel Home, on the seventh day (October the 7th, 1907), he presented a typical picture of the disease—viz. complete paralysis of the left thigh and leg; in the right leg slight power in extensors and adductors of the thigh and flexors of the toes, with loss or diminution of reflexes and marked atrophy, but preservation of sensation. Electrical tests showed failure to respond to Faradism.

A second case, a girl, aged 3½ years, had fallen down a flight of stairs one afternoon, but, in spite of evident bruises over the lower spinal region, had been able to walk after the accident, and was apparently well when she went to bed. But next morning, on awakening, her legs were found paralysed, and she showed mild symptoms of infection. As a strange coincidence, the paralysis had practically the same distribution as in the first case.

The exhibitors remarked on the rather unusual form of onset, which explained the prevalent lay idea as to the influence of traumatism. In the case of the boy the fall possibly was caused by the rapidly appearing paralysis, as his subsequent symptoms showed a severe form of the disease. In the case of the girl, if the account was true, the fall had no direct relation. The concensus of opinion places the disease among the infections, and the recent work of Harbitz and Scheel ('Journ. Amer. Med. Assoc.,' November, 1907) amply confirms this, although the specific organism and the atrium of infection remain to be definitely determined. The number of cases recently observed in Philadelphia points strongly to an epidemic form of the disease, although the majority of the cases are of the mild sporadic type.

Upon Dr. Griffith's suggestion, discussion on this subject was postponed until after Dr. McCombs' paper.

A Paper on Acute Anterior Poliomyelitis was read by Dr. R. S. McCombs. He gave statistics from the Children's Hospital of Philadelphia. His investigations embraced four and a quarter years, from July, 1903, to November, 1907. In 1903 (six months only) there were 6 cases; in 1904, 7 cases; in 1905, 6 cases; in 1906, 4 cases; in 1907, 26 cases. From July the 23rd to October the 24th, 1907, there were 24 cases. In addition, there were during the last period 6 cases which applied for admission but were not admitted into this hospital. They were not, therefore, included in the following tables. Cases of less than one month's duration on admission:

July, 1903 to July, 1907 (*four years*), 12 cases.
July, 1907 to October, 1907 (*three months*), 18 cases.

Total cases treated:

July, 1903 to July, 1907 (*four years*), 25 cases.
July, 1907 to October, 1907 (*three months*) 24 cases.

The cases were carefully selected, all those that were doubtful being excluded. On comparing eighteen cases of less than a month's duration on admission with twenty-five cases in which the histories were complete enough to make valuable records, it was found that the cases occurring during the epidemic did not deviate from those occurring before. The discovery of paralysis as the first symptom was slightly in excess of an onset with initial fever and vomiting, which were most prominent in the twenty-five cases. The paralysis appeared most often during the first twenty-four hours, as in the twenty-five cases; and likewise involvement of a single extremity was the most frequent form of paralysis, closely followed by the failure of both legs. Pain was noted in about the same proportion (one fourth) of the cases. Meningeal symptoms were lacking, and improvement seemed about the same as in the previous twenty-five cases.

Dr. Young said that at the Polyclinic Hospital acute anterior poliomyelitis did not appear to have been epidemic in autumn. Regression usually began at six weeks, so he did not expect it yet in the cases reported by Dr. Gittings.

Dr. Herbert Fox said that the Health Department of Pennsylvania had its attention called to twelve cases of anterior poliomyelitis in Eau Claire, a small town in Butler Co. Some more cases occurred this autumn in neighbouring counties. Fourteen cases developed in the borough, and an effort was made to trace the transmission. The town runs along a ridge, and water and milk as means of transmission were excluded. Insects were also excluded, flies being investigated in vain. The disease attacked both careful and careless families alike. The abortive cases had the evidences of an acute infection, but there was only a transient weakness of the extremities; no paralysis. No connection could be found between these abortive cases and the true cases with paralysis. But in Oil City it was distinctly the middle class which suffered the most. Here Dr. Fox obtained several sterile lumbar punctures. These cases showed a rapid rise of temperature, obstinate constipation, and vomiting. No catarrhal symptoms were noted in the nose and throat, but they were present in the eyes. Pains in the legs and thighs were common, until the paralysis appeared; later the pains sometimes returned. Distinct rigidity of the neck, with retraction of the head, was common. Four cases were rapidly fatal, and in these cases the head was retracted and the thighs and legs flexed. Here the spinal fluid was found to be in excess, clear and limpid, containing very few mononuclear leucocytes. The fulminating cases, with symptoms of acute infection and cerebral pressure, all developed within twenty-four hours. In the one case which came to autopsy, no excess of cerebro-spinal fluid was found. Examination of the noses and throats of both sick and well did not lead to any conclusive bacteriological results. The results of this infection conform to those of the Norwegian observers, and seem to indicate that poliomyelitis, like cerebro-spinal fever, is "in the air."

Dr. F. W. Loughran (New York), said that there were a large number of fatal cases in New York, many resembling cerebro-spinal meningitis; in those cases lumbar puncture gave a sterile fluid. They were often preceded by evidences of intestinal intoxication. In some cases, on account of the pain, the diagnosis of neuritis or even rheumatism might be made. After the pain and irritation of the muscles had disappeared, Dr. Loughran advised rest for the affected limb in a plaster cast, to be removed twice a day in order to produce hyperæmia by the Bier-Klapp method, which caused excellent functional recovery. No atrophy of the muscles resulted after three months' treatment. The cases occurred mainly in low-lying districts where water courses had dried up.

Dr. T. H. Weisenburg said that he had noted an increase in the number of cases of acute anterior poliomyelitis since July. He had noticed that the cases were more severe than generally, in that both lower limbs were extensively involved, and *in two cases the abdominal muscles were also affected.**

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* Three cases have been shown at The Society for the Study of Disease in Children, London, England: A girl, aged 14 years, by Frederick Taylor, 'Reports,' vol. iii, p. 247; a girl in whom the disease commenced at the age of two years, by Arthur Edmunds, 'Reports,' vol. v, p. 15; and an infant, aged 2½ months, by George Carpenter, 'Reports,' vol. vi, p. 53. *Vide* also a case in a boy, aged 20 months, by Fortescue Brickdale, The British Journal of Children's Diseases, September, 1907, pp. 402–405.—(Ed.)

This was a rare complication, only nine cases having recently been found in the literature. In some of the cases there were meningeal symptoms, and in most of them pains in the limbs. This could be accounted for by the accompanying neuritis, for in nearly all the cases there was pain on pressure over the nerve trunks. The latter is not an unusual symptom, as it is present in all cases if looked for early. Pathologically the disease is an acute infection, and microscopically a degeneration of nearly all of the cells of the anterior horn of the spinal cord throughout its whole extent was to be found. There was always congestion of the blood-vessels with leucocytic infiltration and often hæmorrhages. The reason why greater involvement of one limb occurred was either owing to weakness of the part, or to the fact that the disease always manifests itself more in those parts which are most used. The fact that nothing had been detected in the cerebro-spinal fluid did not argue against an acute infection, for this disease is not one in which the brain and cord are alone involved. In acute anterior poliomyelitis there was a general infection with general symptoms of an acute intoxication, and the paretic symptoms come on afterwards. It is probable that, if we were to examine more closely the different organs of the body, we should find a similar degeneration of structure. We have not, then, a spinal cord disease alone. It would be wise to examine all of the secretions of the body, especially the blood.

Dr. Herbert B. Carpenter said that he usually saw two or three cases a year; this year there had been thirteen cases during his three months' term of service in August, September, and October. The illness came on overnight usually, and the patients did not come from any one portion of the city. All occurred in children under four years of age. In one case, a week before the child became ill, a sister had died of cerebro-spinal meningitis.

Dr. S. M. Hemill spoke of the dissimilarity between the epidemic and sporadic types of the disease. He pointed out the widespread distribution of the lesions in the epidemic type, referring especially to the recent reports of Harbitz and Scheel on the pathology of the epidemics occurring in Norway, and spoke of the view expressed by them that, in all cases, the pia mater was the first portion of the nervous system to be involved. Both clinically and pathologically some of their cases simulated Landry's paralysis, transverse myelitis, etc. The reports upon the pathological findings in the various epidemics have given us an anatomical picture entirely unlike that we have found in the sporadic cases. On the basis of the age period at which epidemic cases occur, the epidemiology, symptomatology, and pathological findings, he was inclined to believe that this so-called epidemic type of poliomyelitis is an infectious disease dependent upon an entirely different infecting organism.

Dr. Fussell thought the cases reported by Dr. McCombs resembled the sporadic rather than the more recently reported epidemic cases. There had been no cases in the part of the city in which he lived. Some physicians wrongly call their cases rheumatism, on account of the pain present.

Dr. Le Boutillier said he had had only four cases in the Polyclinic Hospital this autumn, two of which came in within two days, both from the south-eastern part of the city. At St. Christopher's Hospital for Children, in the north-eastern part of the city, he had had no cases at all.

Dr. W. N. Bradley said that he had seen ten or fifteen cases this autumn. They resembled the sporadic cases more than those recently reported as epidemic in New York. None of his cases were fatal. Some of the cases seen at the Jefferson Hospital had come in from New Jersey. Dr. Bradley called attention to the possible chilling of young children when the first cold nights come; tonsillitis occurs frequently, and perhaps the germ enters in that way. Fever and vomiting were the first symptoms noted.

Dr. J. Madison Taylor spoke of the treatment. He had seen a great number of cases late in the course of the disease, and recommended electricity and massage, which should be kept up for a long time.

Dr. Gittings said that, while in one of his cases the onset was very sudden, like many of those reported recently, the other resembled the sporadic cases.

Dr. McCombs said his cases resembled the sporadic cases, and were not like those reported in the epidemic in New York.

A Cretin, aged 18 years, was shown by Dr. E. E. Graham. He weighed 12 lb. at birth; dentition at eighteen months, still showing some primary teeth: parents both living and well, English. He did not walk till six years old; intelligence was apparently normal until two years of age. At two and a half years he came to America. He has had several attacks of articular rheumatism. He is now 37½ in. high; when seven years old he measured 36 in.

A second Cretin, a girl, aged 8 years, was born in Russia; dentition at twelve months; anterior fontanelle closed at second year. She is 34 in. high and looks like a girl of three or four years. She has not grown at all in five years. Mentally, she is like a child of three. She began to walk at three years, and to talk at four years. She has been taking thyroid extract for just one month, and has greatly improved upon it.

A Case of Congenital Heart Disease in a girl, aged 5 months, was also shown by Dr. Graham. The heart's action was rapid, and there was a loud, blowing, systolic murmur heard all over the sternum, most marked at the base. There was no cyanosis, and her breathing resembled closely the respiration of inspiratory dyspnœa. At each inspiration the sternum was drawn in, and there was depression of the supra-sternal notch and supraclavicular spaces. On percussion the heart seemed to be enlarged; a distinct thrill was felt over the cardiac area. There was no clubbing of the fingers, and the hands and feet were warm. In view of the enlargement of the right heart and the systolic bruit, the exhibitor inclined to the view that there was a congenital heart lesion. The family history gave no indications of syphilis, tuberculosis, or rheumatism.

Dr. M. Howard Fussell said that to make an exact diagnosis in congenital heart disease seemed impossible. He had reported a case some years ago in which there was one auricle and two ventricles, although the left ventricle did not function. The child had a systolic murmur, and no cyanosis appeared until it was four years old. It died when five years of age.

A Baby, aged 10 months, with Congenital Dislocation of the Knee was shown by Dr. J. Torrance Rugh.

Dr. James K. Young said that he had reported two similar cases some years ago. One was single, the other double. They both recovered.

A Coloured Boy, aged 7 years, with Wry Neck from Extensive Burns was shown by Dr. Young. He was scalded on March the 25th, 1907, over the face, ears, sides and back of the scalp, the neck, shoulders, back, and upper third of the arms. He was delirious for two weeks and ran a temperature for weeks, lying on his back with his head turned to one side or the other. During the first week he kept it turned to the right, but it was gradually got over to the left by changing his position. He complained of such severe occipital pain when he lay on the occiput that it was impossible to keep him that way. During the second and third week the deeper skin sloughs came away, and his condition was so serious that it was impossible to forcibly change the position of his head. He became cyanosed several times, and was kept up on saline solution and stimulants. By the time he was in a condition to be handled his head was so firmly held to the left that it could not be changed. He was treated by massage and exercises for four months. Before that the left shoulder was slightly raised, and his chin rested on the shoulder. His treatment of massage and exercise would be continued, and later some skin operation would perhaps be undertaken. Dr. Young said that keloids were as common in coloured children as in coloured adults.

A Paper on Primary Nasal Diphtheria was read by Dr. G. W. Stimson, the report dealing with several cases of primary nasal diphtheria, including one in an infant ten days old. He described the symptom-complex from 100 cases reported. The great majority of cases of malignant nasal diphtheria is secondary. Primary nasal diphtheria, usually mild and limited to the nose, sometimes extends downward and assumes a more malignant character. He traced instances of direct infection, proving this capable of acting as a focus of infection, cases resulting from which may be severe. The disease shows a tendency to reproduce itself, or at least to cause a disease equally mild in character. Undoubtedly the mild type constitutes a large majority of all the cases that may be included under the general term "primary nasal diphtheria."

Dr. J. P. Crozer Griffith said that it would be very difficult to distinguish primary nasal diphtheria from that secondary to the involvement of the nasopharynx, were it not that diphtheria developing primarily in the latter position is usually of a severe form. We may conclude, consequently, that if the symptoms observed are very mild, the diphtheria is probably primary in the nose. While primary nasal diphtheria is not generally serious to the patient, it is the most dangerous form for others, because it is so often overlooked and, consequently, is so easily contracted. Any child, especially in a hospital, who develops an irritating nasal discharge, little or no fever, and no evident constitutional symptoms, should awaken suspicion. It had repeatedly happened in his experience that such cases on examination had exhibited membrane within the nares, or even without membrane had revealed Klebs-Loeffler bacilli. Before its detection the disease might have spread to other children in the ward, and diphtheria, not primary in the nose, might have developed.

Editorial.

HYPERPYREXIA.

Among the many conditions in medical science of which the pathology and treatment are, unfortunately, as yet but imperfectly known, must be classed the state known as hyperpyrexia. The term is but a relative one, and is best used to connote a temperature above the arbitrary level of 106° F. The temperature in childhood, as is well known, is apt to rise to a considerable height from even trivial causes, and frequently without any apparent cause at all, but true hyperpyrexia is sufficiently rare in early life that when a case of it is brought to the notice of the profession it deserves more than a passing comment, if only to stimulate research in the uncertainty which surrounds it, and the publication of individual experiences. At the last meeting of The Society for the Study of Disease in Children, Mr. G. H. Lock read a report of a case of rheumatic hyperpyrexia in a child, aged 6 years, the full details of which will be found on another page. Put briefly, the case was one of hyperpyrexia occurring on the third day of an attack of acute rheumatism accompanied by chorea, from which the child had also suffered a year previously. The temperature rose to 107° F., but the application of an ice-pack was followed by alarming symptoms of dilatation of the heart. The next day the temperature rose to 110° F., and the child died suddenly. The recording of this case has already borne fruit, in that it has stimulated the publication by Dr. George Carpenter, the Chairman of the Meeting,* of another case of rheumatic hyperpyrexia, which occurred in a child, aged 3½ years, during the course of chorea.

Hyperpyrexia is found most commonly in association with acute rheumatism, and what is true speaking generally applies also to childhood. Acute rheumatism in children does not, as a rule, start with the same severe symptoms and high temperature as in adults; the onset is less marked and the temperature usually ranges from 100° to 100·5° F. In those cases which ultimately develop hyperpyrexia the initial stages, as a rule, do not materially differ from those of a moderately acute attack, but after the lapse of a few days the temperature runs rapidly up, often accompanied by diminution or cessation of the joint pains, and the outlook of the case becomes correspondingly grave. On the other hand, as frequently occurs in adults, the rise of temperature may not occur until two or even three weeks after the acute symptoms of the disease have terminated. In the early cases the profuse sweating diminishes and the skin is frequently hot and pungent. The rise of temperature may be preceded or accompanied by restlessness and delirium, or, as in Mr. Lock's case, the mental faculties may be clear until the end; as a rule, however, in those cases which end fatally death is ushered in by coma. In the report of the committee appointed by the Clinical Society (1882) to investigate the subject of hyperpyrexia in acute rheumatism, forty-seven cases of true hyperpyrexia are dealt with, and of these by far the greater number were adults, the youngest being of the age of twelve. From the report it appears that hyperpyrexia prevails at certain periods, corresponding with an increase of rheumatism, though not in exact proportion to it, its occurrence in the spring and summer months being relatively more common than at other seasons. Males were more frequently attacked than females, but the age incidence showed no marked peculiarity. It was found also that in a large majority of cases hyperpyrexia was associated with a first attack of rheumatism, and that pericarditis and pneumonia were the most frequent complications. With very high temperatures the prognosis was bad, only two cases out of nineteen which showed a temperature above 108° F. ending in recovery, and this without there being necessarily any complication.

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* 'Lancet,' November the 30th, 1907.

In children hyperpyrexia may be also occasionally met with in the course of meningitis, pneumonia, or one of the eruptive fevers, especially in the acute or fulminating form of scarlet fever; much more rarely it is associated with measles.* It must further be borne in mind that hyperpyrexia may ocasionally be artificially induced by the continuous application of the hot wet pack, as was described by the chairman of the meeting, who related three cases of acute nephritis † in which this had occurred. In adults excessively high temperatures are found in a variety of conditions in addition to acute rheumatism, the chief being, perhaps, hæmorrhage into the pons Varolii. In acute and chronic alcoholism it is by no means unknown. In tetanus the temperature may rise to 109° F. or 110° F., and in sunstroke higher still, a maximum of 112° F. having been recorded in this disease. Hyperpyrexia may also occur in pneumonia or in enteric fever, and even more frequently in general pyæmic conditions. In hysteria the vagaries of the temperature may be truly remarkable. A state of hyperpyrexia may be found in one axilla, while the temperature in the other or in the rectum is more or less normal. The height to which the temperature is stated to have risen in hysteria must be taken with some reserve, for we cannot but suspect that the reading of 148° F., recorded by Jacobi, was not unaccompanied by fraud.

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* Dr. E. Barnes has recorded a case of hyperpyrexia in conjunction with measles in a child aged $3\frac{1}{2}$ years, 'Brit. Med. Journ.,' December the 5th, 1903.

† *Vide* current issue.

The exact pathology of hyperpyrexia is as yet unknown. In some way the heat-regulating centres are disturbed and their action perverted. In the light of modern investigations it is reasonable to suppose that some change, possibly of a chemical nature, is brought about by the toxines of specific micro-organisms. In hysteria, however, it seems likely that the condition is due to some inherent instability of the nervous centres, analogous to that which presumably occurs in the cortical areas in cases of functional paralysis or hemiplegia.

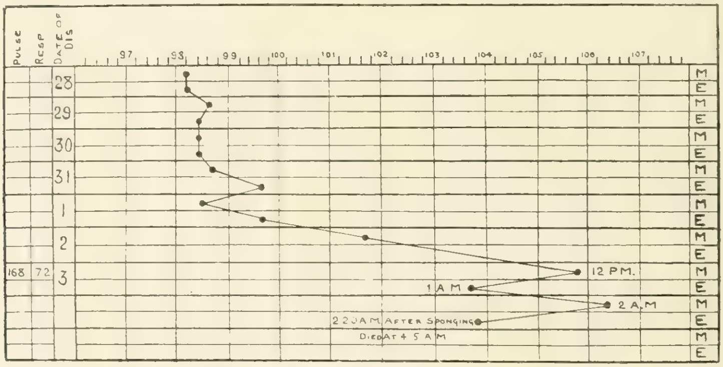
The treatment of excessive temperatures, in children at any rate, is not unattended with considerable risk. Dr. D. B. Lees has advocated the application of cold, and the committee of the Clinical Society also came to the conclusion that bathing gave the best results, but this report, it must be remembered, dealt chiefly with adult patients. At the meeting of The Society for the Study of Disease in Children both Dr. Carpenter and Dr. Sutherland struck a note of warning against the indiscriminate use of baths or of the ice-pack for children with hyperpyrexia, and Mr. Lock's case also teaches the same lesson. It seems from Dr. Carpenter's experiences that children in a highly febrile state bear cold when applied to the back, but that they become collapsed and show signs of dilatation of the heart when the area of the præcordium is chilled. More information, however, is required on the subject.

Abstracts from Current Literature.

Medicine.

Œdema in the new-born infant and nursling (*'Rev. Mens. des Mal. de l'Enf.,' September, 1907, p. 385*).—**d'Astros** contributes an interesting paper on œdema which presents well-known characters but pathology hitherto not well defined. (1) Simple œdema of the new-born occurs in those of premature birth, of under-weight, and of a more or less marked general debility; it is associated with simple icterus in more than one third of the cases. It commences soon after birth, rarely later than the fourth day. It is localised first not in the lower limbs, but in the hypogastrium and supra-pubic region, whence it generally extends to the posterior aspect of the thighs, the legs, notably the calves and dorsum of the foot, sometimes the dorsal surface of the hands. General œdema is rare. In a typical case the cellular tissue under the fine skin seems engorged with an excess of fluid which does not destroy its elasticity, so that it does not pit on pressure. This congestive period is of short duration, and there gradually supervenes an œdema which retains the impress of the fingers. At the same time the colour of the skin changes; from the rosy œdema of the early stage it becomes bluish from cyanotic complication or yellow from co-existing icterus, but ultimately and in the absence of these complications, white. The duration is variable; in slight cases it may disappear in three or four days, but may last ten, fifteen, or twenty. There is never any albumin in the urine, which remains clear and abundant. The causation of this œdema is probably complex. Its frequency in cases of premature birth points to insufficient function of organs not completely developed. At birth the respiratory function is suddenly called upon, and in these premature children it falls short of complete activity. The author considers that the difficulties in the establishment of the respiratory function and the pulmonary circulation are essential conditions in the pathology of œdema in the new-born, in all of whom signs of pulmonary atelectasis exist during life, and a fœtal condition of the lungs more or less marked is found after death. There may be a certain amount of renal inadequacy, but this is secondary to the respiratory inefficiency and circulatory stasis, and never goes so far as nephritis. In œdema having different characteristics, other causes than congenital debility and prematurity must be sought for, and a different pathology should be suspected if it occurs later than four days after birth, and if it does not commence in the supra-pubic region, and if it continues longer than a month. (2) Certain œdemas arise from an acute affection of a septic nature. In a number of cases it happens that a weak premature infant has a simple œdema: a septic infection to which, being weak, he is especially susceptible, then ensues, the renal functions are disturbed, and an *aggravated œdema* is produced. In these cases there is albuminuria which may be considered always morbid if it persists longer than four days; the œdema is white and softer, and persists; the cause may be found in an umbilical or broncho-pneumonic affection. (3) Chronic infectious diseases produce analogous manifestations; inherited syphilis is the principal of these. Syphilitic œdema may supervene or a simple œdema, or present its special characteristics from the commencement. It is a symptom which may serve to establish a diagnosis of this disease by drawing attention to an enlarged spleen or liver. (4) Pulmonary affections may produce œdemas which come under the category of infectious œdemas. Spasmodic cough following on influenza may also cause œdema of the face by simple venous stasis. A third form consists in œdema localised to the upper extremities without participation of the face, and seems to be caused by compression of the ascending vena cava and large venous trunks by congested and hypertrophied glands. (5) Certain œdemas may develop in the course of serious digestive disturbance or enteritis, and may take the form of a general anasarca. Their pathology is probably not the same in all cases. Some, where albumin is present, come under the category of infectious œdemas, but in the majority the absence of albumin is marked, and in these the condition is associated with retention of chlorides as demonstrated by Hutinel and Heubner. VINCENT DICKINSON.

A fatal case of chorea associated with double optic neuritis and hyperpyrexia in a child aged 3½ years ('*Lancet*,' *November* 30, 1907).—**George Carpenter**[*] records the case of a female child, aged 3½ years, who, some six weeks before he first saw her, suffered from swollen hands and feet. A fortnight later she developed general choreic movements. When seen by the author she had a mitral bruit. There were numerous subcutaneous nodules on the back of the head and about the ankles and feet. The temperature was 100° F. She was treated by means of arsenic. This, however, had to be stopped when 10-minim doses had been reached on account of conjunctival irritation. She was wasting considerably, and showed some pityriasis. The nodules had by this time disappeared. Double optic neuritis was now present. She became languid and drowsy, but the choreic movements were less marked. On August the 2nd, that is, two months after the onset of her illness, the morning temperature was 101·6° F., and by midnight it had reached 106° F. She was now delirious. The movements were greatly augmented. She was given repeated 3-grain doses of antifebrin. Next day the temperature fell, but rose again to 106·4° F. She was sponged over, and the temperature fell to 103·8° F. During this period the breathing was rapid, the face was livid, and the lips blue. Deglutition was difficult, and death rapidly ensued. At the necropsy slight thickening of the mitral valve was present. Peyer's patches were injected, but the intestines were otherwise quite normal, as was also the brain. Dr. George



Temperatures taken in the axilla.

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[*] *Vide* Society Intelligence, "The Society for the Study of Disease in Children."

Carpenter remarks that during an experience of over twenty years this is the solitary example of rheumatic hyperpyrexia in a child that he has observed. At the time of the fatal onset the patient was not obviously suffering from rheumatic fever, though her illness began with that complaint. The hyperpyrexia was no doubt due in this case to a fatal and additional dose of the rheumatic poison.

James Burnet (Edinburgh).

Foreign body in the œsophagus (*Sheffield Medico-Chirurgical Society's Meeting, October* 24, 1907).—**A. W. Cuff** read notes of a case of foreign body in the œsophagus, and which was reported in the 'Lancet' of November the 23rd, 1907. A child, aged 5 years, swallowed a halfpenny. It was localised in the œsophagus opposite the second dorsal vertebra by means of the Röntgen rays. An attempt was made to remove it with a coin-catcher. The metal part, however, broke off and remained in the gullet. An œsophagotomy was performed and the coin was secured, but not the broken part of the coin-catcher. The wound healed well, but the metal part of the coin-catcher caused great trouble. The child had a high temperature, with rigors, which did not cease when the missing piece had been passed *per anum*. The abdomen was opened, but the only abnormality found was enlargement of the mesenteric glands. The child subsequently made a perfect recovery. James Burnet (Edinburgh).

Congenital rickets ('*Sem. Méd.*,' *October* 10, 1906, *p.* 481).—**Marfan.** —The majority of French physicians hold that rickets is always an acquired, never a congenital disease, while the Austrians and Germans regard it as having almost always an intra-uterine origin. Marfan, who previously shared the views of his French colleagues, has recently seen cases in which undoubted clinical evidence of rickets was present at birth. On the other hand, he believes that this ante-natal origin is rare. According to him it may assume a variety of different forms: (1) A latent form where the diagnosis is only possible by microscopical examination. In such cases the bony deformities will be only appreciable to the naked eye some time after birth. (2) Some cases of congenital rickets are born dead or non-viable. In these the bony deformities are excessive, and are often associated with visceral malformations. Such cases only come under the observation of obstetricians. (3) A form in which the skeletal deformities are so extensive and characteristic that their nature cannot be mistaken. Under careful treatment the lesions disappear by the end of the second year. This variety is rare. (4) A common form in which at birth only craniotabes exists, and the characteristic deformities of the skull, thorax, and limbs develop later. The existence of congenital rickets negatives the view that defective alimentation is the only cause of rickets, as the majority of French authorities maintain. In almost all the cases of congenital rickets some serious morbid disturbance in the mother can be found, among which syphilis must be reckoned. J. D. Rolleston.

Hereditary syphilis ('*Pediatrics*,' *p.* 585, 1907).—**Lydston.**—A man infected his wife with syphilis, a vulvar chancre appearing during the seventh month of her first pregnancy. Shortly afterwards a healthy child was born, which died of bronchitis when two years old, having meanwhile shown no evidence of syphilis. Fifteen months later a second child was born, which presented definite evidence of syphilis. The child died in about three weeks after being nursed by its grandmother and aunt, who, ignorant of the danger, had caressed and fondled it incessantly. A fortnight after its death both women developed labial chancre, followed by secondary syphilis. The grandmother subsequently infected her husband. The infection of one individual was thus responsible for the syphilisation of five persons.

J. D. ROLLESTON.

The effect of altitude upon school children in relation to physical exercises (‘*The Transvaal Medical Journal,*’ *August*, 1907).—**Baumann's** attention was drawn to this subject when advice was sought from the Transvaal Medical Society on the subject of cross-country racing for boys. It was stated that the boys were tired out more quickly at games than in Europe. Personal observation convinced him of the accuracy of the statement. He examined a random selection of 310 lads of all classes ranging in age from ten to sixteen years; 205 boys presented cardiac conditions which he regarded as abnormal. In 182 there was cardiac hypertrophy; 3 had organic valvular lesions; 20 showed signs of dilatation. He regards the altitude of Johannesburg, 6000 feet above sea level, as the main causative factor. The cardiac hypertrophy may thus be regarded as physiological, but the danger is that this leaves no cardiac reserve for times of unusual stress or illness. Such a prematurely hypertrophied heart more rapidly passes into a condition of acute dilatation. The writer recommends careful medical supervision of physical exercises, preparatory training for and regulation of athletics.

M. D. EDER.

Backward children (‘*La Semana Medica,*’ *September* 5, 1907).—**Picado** has a long review of this question in reference to the law which is projected that is to deal seriously with these children for the first time in the Argentine Republic. He estimates that there are some 596 abnormal and backward children now being educated in the ordinary schools of Buenos Aires. The education they receive is not only an enormous expense but is in no wise helpful to the patients. Without pretending to give a very accurate definition of abnormality he thinks the normal child may be regarded as one who is physically well-developed and mentally stable. The abnormal may be broadly divided into two groups, the feeble-minded and the unstable. The latter are the undisciplined of the class-room; they can be taught much but never learn to think for themselves. They are readily suggestible and in later life swell the criminal classes. Regarding physical signs, the author remarks that no single sign is sufficient. It is the presence of many so-called stigmata in the child that serves to distinguish them. He is a firm believer in the hereditary nature of their mental incapacity, although many cases are probably due to intra-uterine or infantile disorders. By a special individual mental and physical training these children will cease to become a source of national danger. Though no great intellectual feats can be expected from them they can be made into useful artisans or helpers in domestic work.

M. D. EDER.

Icterus in the new-born (‘*Münch. med. Wochens.,*’ *No.* 41, 1907).—**Schmorl** has for some time noticed that the new-born who have succumbed to severe icterus show here and there an unusually deep deposit of yellow staining in certain nerve-centres. This is confirmed by his former work, and supplemented by interesting microscopical findings, which showed extensive cell-necrosis in the yellow-tinted portions of the brain. No explanation of this appearance is given.

J. E. BULLOCK.

Thread-worms and the appendix (*'Deutsch. med. Wochens.,' No.* 43, 1907).—In a little girl, aged 6 years, after some pronounced affection of the cæcum, the excised appendix appeared normal externally, but was blocked with thread-worms, and showed a loosened hyperæmic mucous membrane. Microscopical examination showed deep destruction of the coats of the appendix, which had been nearly perforated by the extensive wanderings of the worms.
J. E. BULLOCK.

Secondary vaccination (*'Deutsch. med. Wochens.,' November* 7, 1907; Society for Children's Diseases in Berlin).—A child, aged 4 years, unvaccinated, became inoculated by his brother, who had been vaccinated a few days previously. The infection, according to the account of the father, followed on the thirteenth day after the primary vaccination, an experience which contradicts the inefficacy of such lymph after the ninth day.
J. E. BULLOCK.

A contribution to the question of conveyance of bacilli in diphtheria (*'Wien. med. Wochens.,' No.* 46, 1907; *'Jahrb. f. Kinderheilk.,' Bd.* 66, *Heft* 4).—**Hasenkmopf** and **Rothe.**—In a military school three patients, separated from each other, fell ill with diphtheria within three weeks. The bacteriological examination of the pharyngeal secretion of all the pupils showed entirely negative results in the unaffected pupils, but persistence of virulent bacilli in the convalescents for two months after the beginning of the illness.
J. E. BULLOCK.

A case of infantile scurvy (*'Berlin. klin. Woch.,' No.* 44, *S.* 1421: *'Gesellschaft der Charité-Ærzte,'* July, 1907).—**Heubner** showed a case of infantile scurvy, pointing out the striking pallor and an appearance which is seldom seen, but which was particularly well marked in his case—viz., under both eyes a blue, half-moon-shaped discoloration, which looked as if the child had been painted. He showed an illustration of another case, in which the distinct outline of this discoloration was seen beneath both eyes. It is produced by a hæmorrhagic extravasation into the subcutaneous connective tissue. A third symptom, shown in his case, he looked upon as pathognomonic, and, though he had met with it in the most varied cases of other painful diseases, such as abscess, osteomyelitis, and joint-tuberculosis, he had never found it so pronounced as in infantile scurvy. In the patient the regions of both knee-joints were swollen from a thickening of the femoral epiphysis, and the slightest pressure on this swelling set up a thoroughly characteristic reflex phenomenon, the child jerking both arms into the air, with a piteous cry. He had pointed this out in his handbook on the subject, but it was little noticed by others. He showed that this symptom was still apparent in his case, pressure on the epiphysis always causing irritation, although the child was on the way to recovery. There were other evidences of the disease, such as Barlow had pointed out. In a radiograph there was shown a whitish outline at the junction of the diaphysis with the epiphysis; this characteristic shadow, which existed throughout, showed that the line of the provisional ossification was widened, and secondly, that an extension stretched towards the medulla from the diaphysis to the ossifying centre of the bony structure, which was as yet not properly formed. There was also seen, by the side of the bone, the dark line, which showed a thickening of the periosteum, in those situations in which the periosteal hæmorrhages between the periosteum and the bone take place. He produced two photographs, in one case a diseased rib, showing a fracture, the separation of the fragments, the thick zone of provisional ossification, and the shaft. Between the rudimentary shaft and the periosteum there was a thick layer of bluish matter, which would form either blood-clot or new tissue. A similar photograph showed a heaped-up collection of blood-clot or new tissue. He stated that atrophy of the bone is a characteristic pathological change in infantile scurvy, and also a cessation of growth, as in congenital syphilis. The osteoblasts disappear, bony growth ceases, leaving fine ridges, which soon disappear, and a peculiar atrophic bone-marrow, poor in cells, with medullary stroma, is left. He showed also a photograph of the atrophied end of a diaphysis; it was very brittle, so that small fractures would take place easily everywhere, and to that he attributed an explanation of the characteristic reflex phenomenon, to which he had alluded above. The thickened periosteum being very tender, because the bone is broken in so many places, the slightest pressure brings about the reflex. In another illustration he showed an unusually abundant formation of hæmorrhages in the bone. He thought that Schmorl, Fränkel, and others say quite rightly that the hæmorrhages are traumatic and secondary, but it is evident that also a real hæmorrhagic diathesis exists, as shown by the marks under the eyes in the patient before them. J. E. Bullock.

Addison's disease in children ('*New York Med. Journ.*,' *August* 10, 1907).—According to **Felbebaum** and **Fursthandler,** Addison's disease is very rare in childhood. The sexes are affected about equally, and the usual age is between ten and thirteen years. The typical form is characterised by its long duration, pigmentation, increasing weakness, and gastric symptoms. Occasionally the disease runs an acute course, and the skin signs may be absent: in such cases the diagnosis is seldom made before the necropsy. When prolonged, the disease may last for years, and be characterised by occasional periods of intermission, death finally occurring with delirium and convulsions. The commonest lesion found is tuberculosis of the supra-renal glands, but cystic fibrous degeneration, and, more rarely, carcinomatous growths, have been recorded. T. R. Whipham.

Pathology.

Cirrhosis of the liver following scarlet fever ('*Jahrb. f. Kinderheilk.*,' *Heft* 65).—**Bingel** draws attention to the importance of scarlet fever as a cause of cirrhosis of the liver in children. In several fatal cases of scarlet fever in which the liver was examined, the author found a more or less well-marked small round-celled infiltration in the portal spaces. In places there were patches of necrosis and of cloudy swelling of the liver cells. The necrotic areas were found to be gradually replaced by connective tissue, and to give rise to a genuine cirrhosis. Regeneration of the cells in some places, however, was inferred from the fact that at the periphery of some of the necrosed patches very large multinucleated liver cells were observed with an increase in the number of the smaller bile-ducts. T. R. Whipham.

Dissociated subcutaneous fat necrosis occurring in an infant without other lesions ('*Johns Hopkins' Hosp. Bull.*,' *September*, 1907).—**Fabyan** states that in spite of Opie's view that fat necrosis is in all cases due to pancreatic disease, certain cases have been reported in which the pancreas was entirely normal. Chiari has compared the condition to a retrograde change in which a degenerative process in a tissue is followed by a necrosis. Flexner, it is true, has shown that the fat-splitting ferment plays an important part. On the other hand, fat necrosis, without lesion of the pancreas, occurs in the adipose tissues surrounding the organ, and also in parts more remote, *e. g.* the skin. Cases of disseminated fat necrosis with a normal pancreas have been described by Hausemann, Fraenkel, and Flexner, and a case of dissociated subcutaneous lesions in an infant two weeks old is now added by the writer. On the third day of life numerous small "abscesses" were seen upon both cheeks, forearms, occiput, buttock, and right lower limb. Most of them were absorbed and disappeared, only that on the right cheek remaining. This was punctured by the medical attendant, and some "pus" was evacuated, which was found to be sterile. On the fourteenth day the child died from accidental suffocation. At the necropsy all the viscera were found to be healthy. A few hæmorrhages were found in the pericardium and pleura, and a large mass of inspissated casein was present in the stomach. Lesions in the subcutaneous tissue were found on the right cheek and on the right arm and leg, all of which presented a typical appearance of fat necrosis. The pancreas was normal, and the surrounding fat did not show any necrotic changes. On account of the neighbourhood of the cheek lesion to the parotid gland, the writer thinks that the gland in infancy may possibly originate lipolysin. The similarity in structure between it and the pancreas further suggests this possibility.

T. R. Whipham.

Influenzal meningitis (*'Arch. of Pediat.,' p.* 721, 1907).—**Adams** reviews the literature, and reports a fatal case in a boy, aged 5 years. The clinical symptoms indicated meningitis, and in the turbid fluid removed by lumbar puncture Pfeiffer's bacillus was found. The diagnosis of influenza, however, had previously been made because the patient had recently had a slight attack and other members of the family were recovering from it. Nineteen of the reported cases have been in children, of whom sixteen died. Lumbar puncture was performed during life in seventeen cases, and the diagnosis determined by finding a pure culture of the bacillus.

J. D. Rolleston.

Infantile tuberculosis (*'Arch. of Pediat.,' p.* 641, 1907; *'Brit. Journ. of Tuberculosis,' p.* 318, 1907).—**L. Emmett Holt.**—Of 67 cases of pulmonary tuberculosis treated in the Babies' Hospital in the course of nineteen months, 62 were under two years and 15 under six months. Tubercle bacilli were found in the sputum in 54, or over 80 per cent. of the cases. The sputum was obtained by irritating the pharynx with a spoon or tongue depressor, and catching the sputum on gauze or muslin. In 27 cases there was a definite history of tuberculosis, either in the parent or other member of the household. The infant is more exposed to house infection than other members of the household, and consequently Holt thinks that direct contagion is responsible for most of the tuberculosis of infants rather than infection by milk or other foods. The value of lumbar puncture in diagnosis is illustrated by the fact that in 42 cases of tuberculous meningitis the tubercle bacillus was found in the cerebro-spinal fluid in every case. The bacilli were, as a rule, more numerous in late puncture than in that made in the early stage of the disease.

J. D. Rolleston.

Therapeutics.

Lactic bacterio-therapy in infantile enteritis (*'Presse Médicale,' October*, 1907, *No.* 85, *p.* 683).—**Rounne** draws attention to two papers on this subject, one by Dunn ('Arch. of Pediat.,' 1907, No. 4, p. 241) and the other by Cohendy ('Arch. des Malad. de l'appariel dijestif.,' vol. i, No. 9, p. 533). The former administered buttermilk made from cow's milk, first pasteurised and then inseminated with pure cultures of lactic bacilli. This treatment was only used in infants in whom the ordinary treatment (purgative, water diet, lavage, etc.) had failed. It had no good effect in microbic and dysenteric enteritis, whilst in twenty-eight cases of fermentative enteritis there were twenty-three complete cures. Ordinarily, unpasteurised buttermilk was sufficient not only to arrest the intestinal fermentation, but also to ensure an increase of body weight. Cohendy, on the other hand, states that, with the exception of tuberculous enteritis, amœboid enteritis, and tumours of the intestine, lactic bacterio-therapy is indicated in all infectious maladies, whether accompanied by diarrhœal flux or fœcal stasis, or the expulsion of mucus and membranes. Its almost universal efficacy is explained by the fact that the lactic microbes introduced into the intestines act as preventives either by the lactic acid they form at the expense of the sugars, or by some other mechanism. The question arises whether this lactic acid is injurious. According to Charrin lactic acid produces in rabbits renal and hepatic lesions, and Loeper has lately shown that this acid is capable of producing atheroma experimentally. On the other hand, Hayem and Hutinel have never observed any accidents follow the administration of lactic acid even in large doses, and the Bulgarian peasants habitually consume acid milk containing as much as ten grammes of lactic acid daily. Now, in lactic bacterio-therapy the quantity of lactic acid introduced into the stomach hardly exceeds sixty centigrammes. Cohendy recognises, however, that this method of treatment is incapable of attacking the cause itself of certain gastro-intestinal diseases or of correcting a faulty secretion of diastase. Nevertheless he hopes that bacteriology will one day succeed in providing therapeutics with pure cultures of bacteria, some auxiliary and capable of helping each of our digestive functions, others preventive, which will serve to combat intestinal infection.

VINCENT DICKINSON.

The treatment of diphtheria by massive doses of anti-diphtheritic serum (*'L'Echo Med.,' October*, 1907).—**Delearde**.—The treatment of diphtheria is directed by the study of its visceral complications and their avoidance by treatment. Many physicians fear to use large doses of antitoxin through fear of inducing complications, such as nephritis or cardiac troubles. This fear is ill-founded, as is proved by the writer, who shows the value of such doses in warding off such complications, and he believes that massive doses are indicated in the majority of cases. For mild cases no doubt small doses are all that are necessary, but some cases commence with mild symptoms and later assume a severe type of poisoning; the only way of preventing this is to give a massive dose at the outset. The dose used by the writer is invariably 50 c.c. of Roux's anti-diphtheritic serum, whatever be the age or severity of the attack; the following day another dose of 50 c.c. is injected; as a result all signs of toxæmia disappear, albuminuria, if present, stops, and syncopic attacks and paralyses are not met with. Skin rashes are no more frequent than with smaller doses. Delearde cites a dozen instances of the benefit of this method. J. PORTER PARKINSON.

Recumbency in the treatment of infantile paralysis (*'Med. Press,' November* 6, 1907).—**Judson** advocates that as soon as the disease is recognised the patient should be kept in the recumbent position till there is no possibility of further recession of the paralysis, which may mean over a period of even eighteen months. The author states that disability from the disease is seen eight times as often in the lower as in the upper extremities, and yet in the early stage the paralysis is found in all parts of the motor nervous system. The muscles of the recumbent patient are but little used and in a position favourable to spontaneous recession of the paralysis. The arms and hands retain this advantage when the patient is erect, but impaired muscles in the legs and feet become elongated and attenuated when they meet the resistance of the weight of the body. Passive motion, resistance exercises, electricity, massage, etc., may be applied locally, and will render it easier to maintain the recumbent position. T. R. Whipham.

Raw milk in the nutrition of infants (*'Wien. med. Wochens.,' No.* 46, 1907; *'Therap. Monats.,' October*, 1907).—**Finkelstein** (Berlin).—The experience that, in children fed for a long time on sterilised milk, infantile scurvy sometimes arises, and disappears when raw milk is resorted to, has given rise to researches on the value of raw milk in healthy infants, and finally to a warm appreciation of this method of feeding. An inquiry into the feeding of infants with sterilised milk, and with raw milk, resulted in the conclusion that there can be no comparison between the two, but that in the ætiology of infantile scurvy feeding with sterilised milk could hardly be considered a causal agent. J. E. Bullock.

Symptomatic infantile urticaria and its treatment by ichthyol (*'Therap. Monats.,' October*, 1907).—**P. Scharff** (Stettin), who proposes the above name for the infantile eruption known as strophulus, strongly recommends the internal and external use of ichthyol, especially bathing with a watery solution (with glycerine), ichthyol soap, inunction of ichthyol ointment, and, internally, ten drops of a 10 per cent. watery solution of ichthyol three times a day. J. E. Bullock.

Absorption of medicinal substances by the mother's milk (*'Wien. med. Wochens.,' No.* 46, 1907; *'Zeit. f. Experim. Therapie u. Pathologie,'* 1907, *Bd.* 4, *Heft* 21).—**C. J. Bucurra,** from a study of the literature on the subject, and extensive special researches, shows that the following medicines, given in therapeutic doses, may be found in human milk: Sodium salicylate, ether, mercury (internally), antipyrin, aspirin, arsenic, bromine, and possibly urotropine. He has not found the usual aperients in the milk, but he does not deny altogether the value of medicinal effect on the suckling through the nursing mother. J. E. Bullock.

Ophthalmology.

Strabismus in childhood (*'Interstate Med. Journ.,' November*, 1907).—**Green** puts in "a plea for the cross-eyed child," who, he says, is often neglected and does not receive fair treatment. The view that convergent squint is primarily due to a shortening of the internal recti, a faulty insertion of their tendons, or paralysis of the external recti has been thoroughly disproved. The facts indicating that the muscles are not essentially at fault are: (1) the power of outward rotation of the squinting eye is perfect or nearly so; (2) a squint frequently disappears under general anæsthesia; (3) a high degree of convergence may disappear when the accommodation is paralysed by atropine, and reappears when the effect of the atropine wears off. Donders propounded the view that hypermetropia was the fundamental cause of squint. In hypermetropic eyes an excessive accommodative power is required for focussing near objects, which implies a greater nervous impulse; the function of convergence receiving the additional nervous stimulus is made to act too strongly, and there is a tendency for the visual axes to converge to a point nearer than the object. This theory of Donders', however, fails to account for many facts. It is shown that the vast majority of children are hypermetropic, and yet very few squint; also that high degrees of hypermetropia do not tend to cause squint, and, lastly, that the degree of refractive error has very little to do with its original onset. Worth pointed out that the essential and fundamental cause lay in a defect in the "fusion faculty," by which is meant the power to blend mentally the images received by the two retinæ. This faculty is absent at birth, the normal positions of the eye being maintained at first by motor co-ordination. At the sixth month there is evidence of binocular vision, and by the sixth year it is complete. When it is fully developed "nothing but an actual muscular paralysis can cause an eye to deviate." "Owing to a congenital defect, however, the faculty may develop later than it should, or else imperfectly, or it may never develop at all." In such cases anything which disturbs the balance of the motor co-ordinations will cause squint, the chief defects leading to this result being hypermetropia and unequal refraction in the two eyes. As a rule the squinting eye has almost as good vision as the other, but as a result of the squint its vision becomes progressively worse from disuse, and the younger the child the more rapidly does this come about. Not only on this account, but also from the fact that the sooner the training to develop the sense of fusion is begun, the better chance will the child have of acquiring full binocular vision, the writer advocates that treatment should be undertaken as early as possible. This consists in either (1) accurately correcting any refractive error; (2) occluding the fixing eye, and thereby forcing into use the deviating eye; (3) instilling atropine into the fixing eye (for the same purpose); (4) training the fusion sense; or (5) operation. Even infants as young as eighteen months can be made to wear glasses. It is only in cases where treatment has been possible from the very beginning that a true cure can be accomplished, and by a true cure the author means not only that the squinting eye shall be straight, but that it shall have nearly as good vision as the other, and that the fusion faculty shall have been developed to the point of maintaining the highest degree of binocular vision.

T. R. WHIPHAM.

Otology, Laryngology and Rhinology.

Death from meningitis following unsuccessful attempts to remove a stone from the ear (*'Arch. f. Ohrenheilk.,' Bd.* 70, *Heft* 1 *and* 2, *p.* 110). —**Schwartze**, of Halle, gives a good illustration of the serious and fatal complications which may arise from the presence of a foreign body in the ear in the following case: A healthy child, aged 5 years, slipped a small pebble into the ear. Attempts by a doctor at extraction failed and the child came under Schwartze. The meatus was red and swollen, with fœtid pus in its depths. Syringing caused violent pain. After some days the pinna was turned forwards and the stone removed. Immediately after the operation the child showed premonitory symptoms of meningitis and died ten days later. *Post-mortem* examination revealed purulent meningitis. The membrana tympani was torn and the membrane of the fenestra rotunda destroyed; there was suppurative labyrinthitis. Schwartze believes the endeavours to remove the pebble before he saw the case were responsible for the fatal condition. In future he will not wait for grave signs before operating. MACLEOD YEARSLEY.

Direct laryngoscopy, with illustrative cases (*'Journ. of Laryngol., Rhinol., and Otol.,' vol.* XXII, *p.* 578).—**Andrew Wylie**, in this paper, demonstrates the value of direct laryngoscopy in children in two cases. The first was a child, aged 5 years, suffering from laryngeal papillomata. A small Killian's tube was passed under chloroform, and the growths removed by Patterson's punch forceps. Bleeding was arrested by swabs soaked in adrenalin. The second case was that of a schoolboy, aged 12 years, who carried a fish-bone in the larynx for three hours. A small Killian's tube, under chloroform, showed the foreign body fixed in the left arytenoid cartilage. It should be noted that tracheotomy instruments should always be at hand when the method of direct laryngoscopy is employed.

MACLEOD YEARSLEY.

Four cases of tuberculous disease of the temporal bone (*'Lancet,' November* 19, 1907, *p.* 1321).—**Ernest West** publishes four interesting cases of tuberculous disease of the temporal bone occurring in children aged 11, 2, and 4 years, and 1 year respectively. In the first of these cases the condition had extended to the labyrinth, but the child made, with operation, a good recovery. The second case recovered on operation, but returned to the hospital two years later to die of tuberculous meningitis. The radical mastoid operation had, however, been completely successful. The same satisfactory operative result was obtained in the third case. In Case 4 operation, which involved scraping out the vestibule, left the ear quite healed, but the patient succumbed a year later to general tuberculosis. These cases were primary middle-ear tuberculosis, ordinary cases of bone tuberculosis in childhood. In none of them was there any pulmonary tubercle. In the second and fourth cases the disease appeared to be a local tuberculosis with a secondary glandular infection. The path of infection in all the cases was doubtful; the fourth appeared to be *viâ* the Eustachian tube; the first three were probably blood infections of the petrous cancellous tissue. In all four cases the immediate surgical results were strikingly good. MACLEOD YEARSLEY.

Surgery.

Treatment of acquired and congenital torticollis (*'Boston Med. and Surg. Journ.,' August* 22, 1907).—**Bradford** and **Seaver** review the experiences gained in this subject during twenty-eight years at the Boston Children's Hospital. Under the term "torticollis" they include only those cases in which deviation of the head has resulted from a contraction chiefly of the sterno-mastoid muscle, and not those arising from spinal caries or inflamed glands. The authors conclude that acquired or congenital (muscular) torticollis may be cured by making a horizontal incision below the clavicle, and dividing the two heads of origin of the sterno-mastoid muscle. Except in unusual cases this is all that is necessary. The incision under the clavicle is advocated, as it leaves a less unsightly scar than any other, and at the same time affords plenty of room. A plaster-of-Paris bandage should be worn for two months to keep the head in the corrected position, and then a brace or metal collar for a further period of four months. It is best to operate between the ages of two and twelve years to ensure a good result and to prevent bony deformity of the head and face.

T. R. Whipham.

Pneumococcal peritonitis in children (*'Arch. f. Kinderheilk.,' Heft* 46). —**Koos** has a paper on this subject. Two forms of pneumococcal peritonitis are found in childhood, an encapsulated and a generalised, both of which are purulent. The onset is always acute with severe abdominal pain, pyrexia, and vomiting, the pain generally being diffuse in character. Herpes labialis is found in some cases, and occasionally the bowels produce numerous watery and odourless stools. In the encapsulated form the acute symptoms generally begin to disappear towards the end of the first week, and in the second stage it is possible to determine the presence of fluid in the abdomen. A diagnostic point between this form of peritonitis and the tubercular is that ascites is found very much earlier in the pneumococcal form. Spontaneous rupture occurs in many cases, especially in those of the encapsulated variety, the pus escaping through the umbilicus or by way of the vagina. If there is no spontaneous rupture, or no operation be undertaken to evacuate the fluid, signs of severe septic infection follow. The generalised form is frequently mistaken for appendicitis. With regard to the ætiology the infection may be either primary or secondary. The latter occurs as the result of a primary infection of the lungs, pleura, middle ear, testis, etc. Primary infection probably always occurs through the medium of the intestinal canal, though in females it is possible that infection may also occur through the genital tract; in this connection it is noteworthy that of seventy-two reported cases, fifty-eight were in girls. The prognosis of the encapsulated form is favourable, if the diagnosis be made early, and recourse be had to operation. Of sixty-nine reported cases fifty-one were encapsulated; of these only four, or 8 per cent., succumbed; while of eighteen cases of the generalised form fourteen died, a mortality of 77 per cent. The treatment of both varieties is surgical. But it is noteworthy that if operation can be postponed until the second week the chances of recovery appear to be improved. The indication for operation, therefore, should depend upon the presence of the fluid exudate.

T. R. Whipham.

Brachial paralysis successfully treated by nerve-suture (*'Intercolonial Med. Journ. of Australasia,' August* 20, 1907).—**Kilvington** reports the cure of a case of Erb's paralysis in a boy, aged 6 years, whose left arm had been paralysed since birth. The case was quite typical: examination showed that the main disability was due to loss of power in the supinators and dorsal scapular muscles. There was a partial luxation of the shoulder-joint. At the operation a bulbous scar was found in the upper part of the brachial plexus, adherent below and above to the subclavian artery. A wedge-shaped piece of the plexus was removed, the operation requiring great care. The cut ends of the plexus were brought together with two catgut sutures. Massage and passive movement were carried out. Five months later there was great improvement, movements being complete in most directions. Inco-ordination was at first considerable, so that the nerve centres had to be re-educated. Kilvington protests against prolonged use of postural treatment in these cases; it is chiefly of value after, not instead of, operation. It may be employed experimentally for two or three months, but if no success is thus obtained operation should not be delayed.

M. D. Eder.

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